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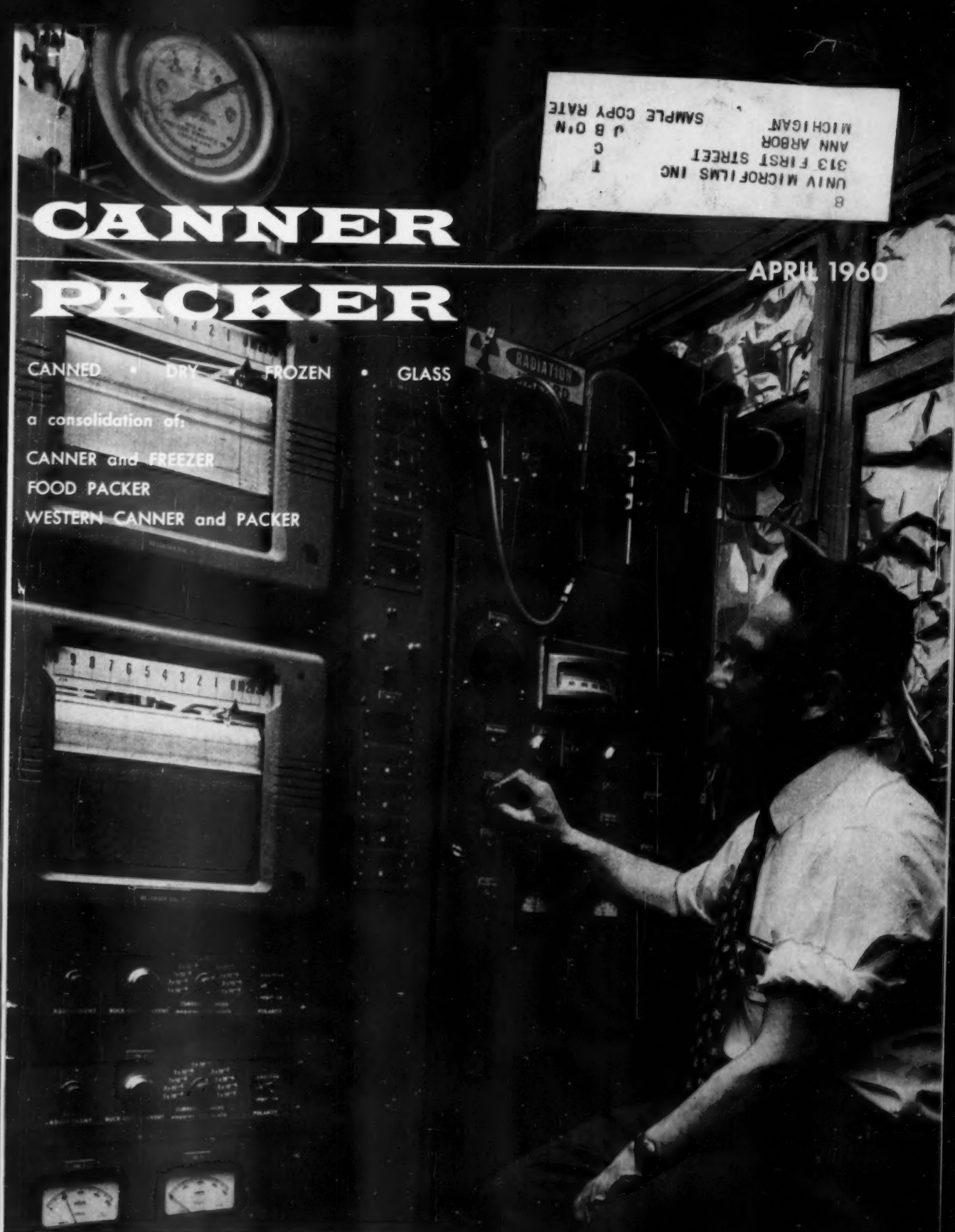
CANNER PACKER

APRIL 1960

CANNED • DRY • FROZEN • GLASS

a consolidation of:
CANNER and FREEZER
FOOD PACKER
WESTERN CANNER and PACKER



Food Technologists meet in San Francisco on May 16. 30-page section begins page 31

SAFE

ROCHE BETA CAROTENE

YELLOW TO ORANGE COLORING FOR FOODS

Proved Safe. Foods containing beta carotene have been consumed for thousands and thousands of years, but Roche did not market its beta carotene until it had been tested and tested and tested again over a long period of time for acute and chronic toxicity. Such tests clearly demonstrated that Roche beta carotene is safe. Remember: beta carotene is one of nature's own coloring agents. *It belongs in food.*

No Coal Tar Color. Roche beta carotene is not a coal tar color! Beta carotene Roche does not contain coal tar! Beta carotene Roche is not in any way derived from coal tar! No coal tar constituent is introduced into the product during the Roche manufacturing process. Made from citral obtained from lemongrass oil and other natural products, and produced by carefully controlled scientific processes, Roche beta carotene is identical chemically and biologically (as provitamin A) with beta carotene contained in vegetables and other foods.

Order Roche Beta Carotene. Five convenient forms are available from Roche to suit your particular products and conditions:

- Beta Carotene and Vitamin A Blends in Vegetable Oil
- Beta Carotene Blends in Vegetable Oil
- 24% Beta Carotene; Semi-Solid Suspension
- 30% Beta Carotene; Liquid Suspension
- NEW! Dry Beta Carotene Beadlets, Type 2.4-S Water-Dispersible

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VITAMIN DIVISION

HOFFMANN-LA ROCHE, INC.

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New York City — OXford 5-1400

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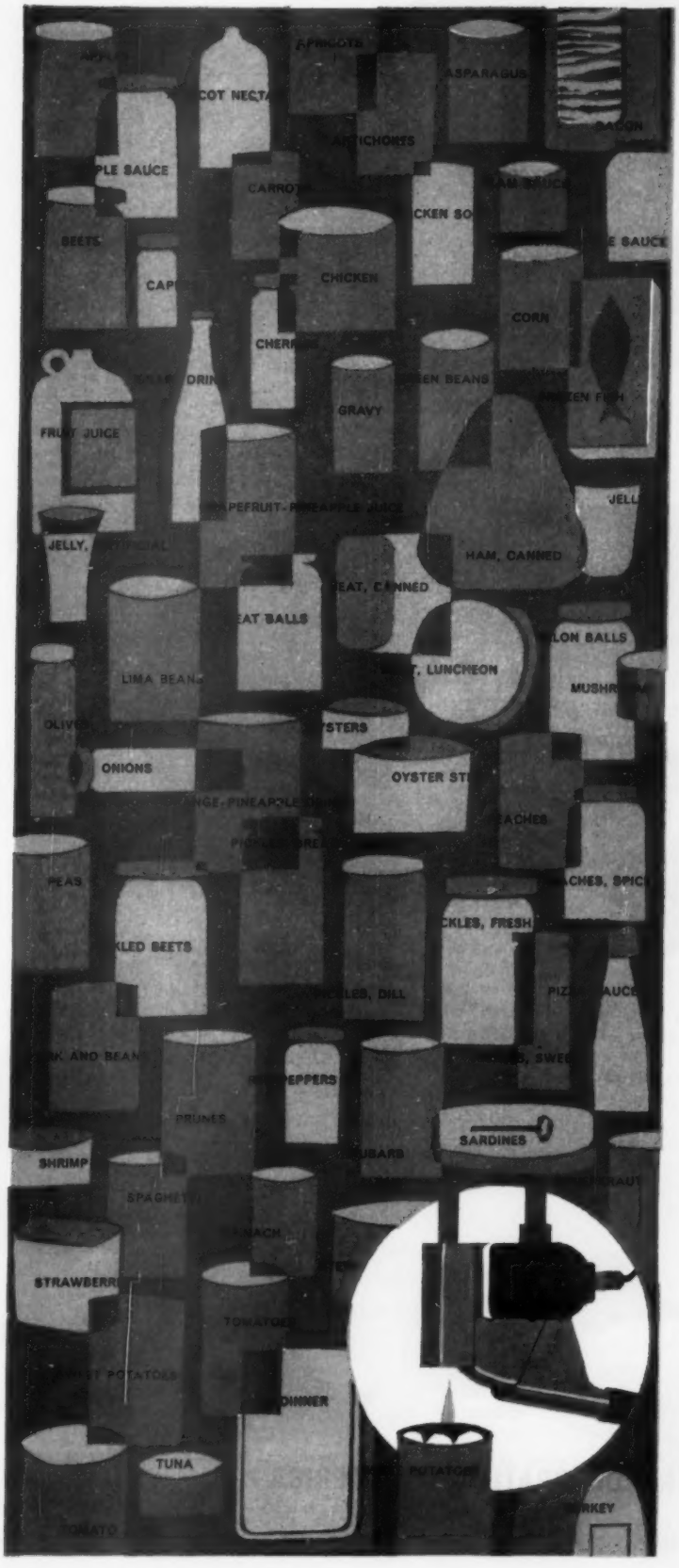
Pacific Coast distributor: L. H. Butcher Co., San Francisco • Los Angeles • Seattle • Portland Salt Lake City

Trademark: Roche®



No splash...
No spill...
No overfill!

Versatile Flocron dispenser ends costly ingredient loss for 63 different products!

Companies who pack, process or can everything from apple sauce and pickled beets to chicken soup and canned meats report substantial ingredient savings since using the new Flocron liquid dispenser. For the amazing Flocron avoids waste inherent in "overflow fill" systems, stops "splash loss" and dispenses more than forty different ingredients with speed and pin-point accuracy that saves money.

The versatile Flocron is actually a precise electronic system with photoelectric circuits in a sealed unit and a new lever-type photo switch to activate dispensing. It assures accuracy, even on lines handling up to 300 units per minute! Remote electronic controls permit you to "dial" the exact amount of liquid required for varying can sizes.

Designed for efficient, low cost operation. The Flocron is made of stainless steel and plastic and is constructed to avoid corrosion and lengthy breakdowns that result in costly downtime. There are no valves to stick or clog, and the Flocron is easily cleaned by circulating a detergent solution through the fluid system and following this operation with a sanitizer.

No need to revise production lines. The Flocron can be operated with existing equipment. Scientific Dispensing Company technicians are available in all areas to assist with installation and service problems.

Some of the liquids you can dispense with the Flocron include: ascorbic acid, beef gravy, brine, concentrated syrup, hot butter, Monosodium Glutamate, spice oils, sugar and brine, tomato puree and vinegar.

For a complete list of ingredients the Flocron dispenses and for additional information about the Flocron itself write:

Scientific Dispensing Company
Division of

MORTON SALT COMPANY
INDUSTRIAL DIVISION
Dept. CP4
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PACK IT in TRP*

That's Tamper-proof Rigid Protection. Gives you: A locked package that's crush resistant. Unbroken end panel display. The advantages of both glued seal-end and tuck style cartons. Reduced packaging costs. You don't need adhesives with TRP. No down time for gluing machinery maintenance. Full range of sizes for frosted and regular bakery goods: pies, cakes, rolls and brown 'n' serve items. Concora E-Z opening feature optional. To pack it—move it—sell it is the business of CCA packaging.

*A trademark of CCA

CCA

CONTAINER CORPORATION OF AMERICA

Chicago 3...and all key marketing areas. Folding Cartons, Shipping Containers, Sefton Fibre Cans, Molded Plastic Products

CANNER PACKER

volume 129, number 4 APRIL 1960

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COVER: Food scientists and engineers of Northern California will play host to the annual national meeting of Institute of Food Technologists, to be held at Masonic Memorial Auditorium in San Farncisco, May 15-19. Numerous field trips to centers of food technology are planned as a part of the event, one of them to USDA's Western Regional Research Laboratory at Albany, Calif. Here is an ultra-sensitive ionization-detector type of gas-liquid vapor phase chromatographic equipment used at the lab to separate and identify flavor components of cereal and bakery products. Other equipment is used for fruit-vegetable flavor analysis.

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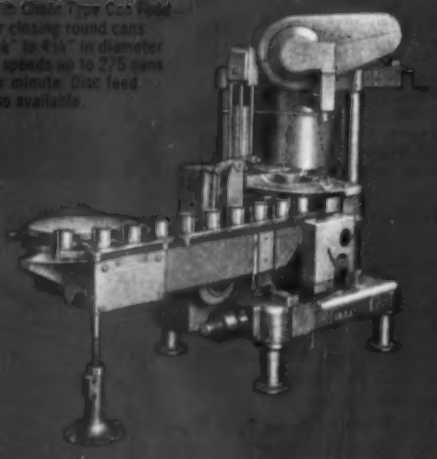
In the Next Issue: *A report of new ideas for production and processing of frozen foods, from the exhibit at the Chicago convention of the National Association of Frozen Food Packers . . . How to use cost data in selling processed foods . . . Research will bring exotic new foods from Hawaii.*

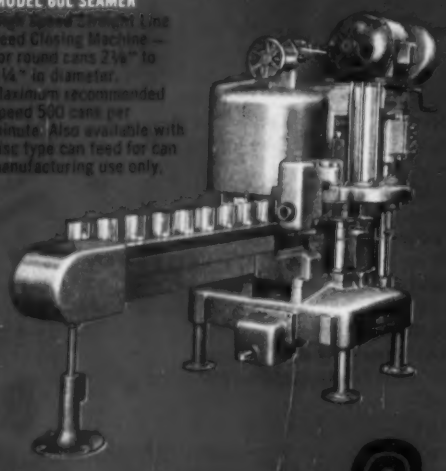
Which ANGELUS CAN CLOSER *for you?*

MODEL 40P-MSLF SEAMER
With Chain Type Can Feed — for closing round cans 2¼" to 4¼" in diameter at speeds up to 275 cans per minute. Disc feed also available.

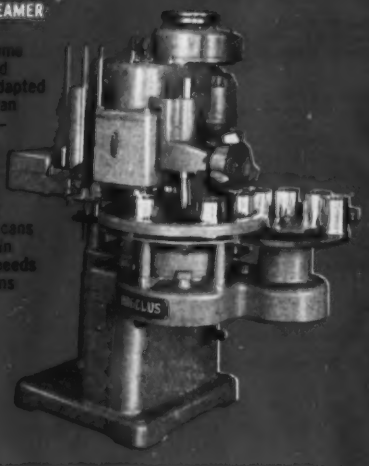


MODEL 50P SEAMER
With Disc Type Can Feed — for making or closing round cans 5" to 6¼" in diameter at speeds up to 150 cans per minute.

MODEL 60L SEAMER
High Speed Straight Line Feed Closing Machine — for round cans 2¼" to 3¼" in diameter. Maximum recommended speed 500 cans per minute. Also available with disc type can feed for can manufacturing use only.



MODEL 10P SEAMER
Designed for moderate volume production and particularly adapted for frequent can size changes — adjustable for closing round cans 2⅛" to 4¼" in diameter at speeds of 30 to 85 cans per minute.



These are a few of the many Angelus Seamers designed to meet all round can closing requirements. Angelus, with over 45 years of specialized experience, is the nation's only manufacturer exclusively producing automatic round can closing machines.

WRITE TODAY for complete details. Specify products, can dimensions and your capacity requirements.

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Sanitary Can Machine Company
Cable Address "Angelmaco" Western Union Code
4900 Pacific Boulevard • Los Angeles 58, Calif.

CANNER PACKER BUSINESS NEWS LETTER
totally dedicated to serving canned, dry, frozen, glassed food processors

April 1960

Food advertising continues to be done primarily by packers and manufacturers, not by distribution firms. All food advertising totaled $398 millions in 1947, and $976 millions in 1956, latest year reported by U. S. Internal Revenue Service. Manufacturers accounted for $320 millions, or 80%, of the total outlay in 1947, and for $724 millions, or 74%, in 1956. Wholesalers contributed 9% in both years, retailers the balance.

Kosher processed foods are becoming more numerous. At the end of 1959, Union of Orthodox Jewish Congregations reports, 1,221 grocery items made by 264 firms in 516 U. S. plants were entitled to show the UO symbol on their labels. During the year, 210 new products were added to the list, and in 1958 there were 182 newcomers.

Look for continued pressure on the U. S. State Department to seek freer sale of American processed foods overseas. U. S. National Fruit Export Council--an association whose members come from the Pacific Coast fresh, canned, dried and frozen fruit industries, the citrus and apple industries coast-to-coast--has already opened the fight, following its February meeting in Washington, D. C. Foreign lands which once were 25% of the market for U. S. processed fruits, and important buyers of other American Food products, since World War II have erected many barriers to this country's shippers, either to protect local producers or for national policy reasons. Since the United States currently has an unfavorable balance of trade, those in the battle feel there is no good reason why we should not be allowed to compete on equal terms with competitors in world markets.

Potato chips have been selected as the favorite food to enjoy while watching TV, by 31,227 U. S. families participating in a 50-state survey conducted by Nutrituion Research Council. Candy was voted the second most popular snack, with fruit, cookies, nuts and dry cereals as runner-ups. An amazing 94% of those queried revealed that they combined dinner with TV viewing at least once a week. The most popular dinner served at such a dinner combined hamburgers, potato chips, sliced carrots, pickles, and coffee or milk.

The second half of the AFDOUS code, that is designed to suggest bacterial standards for frozen foods, may be ready for a preliminary reporting at the Association annual meeting in Dallas, Texas, this June. Painstaking research work has been under way since 1958 to develop adequate data for writing the standards. Status of the first half of the code, that calling for handling frozen foods at zero degrees Fahrenheit or below, is reported in the April issue.

Thomas J. Lipton, Inc., Albion, N. Y., has completed a $350,000 freeze-drying process, and will start a $1 million expansion program. The Central American subsidiary of H. J. Heinz Co., Pittsburgh is building a food processing plant at Caracas, Venezuela. Seabrook Farms Co. will expand its Lewiston, Ida., frozen pea operation, and also add equipment for processing frozen potato products. General Foods Corp., Birds Eye Div., White Plains, N. Y. will expand its Walla Walla, Wash., plant to pack spinach; it will also build a plant at Canadaigua, N. Y. to process its new line of frozen instant baby food. Stayton Canning Co. will build a cold storage building in Stayton, Ore. J. M. Smucker Co., Orville, O. will build a new plant in Salinas, Calif. Hunt Foods will double the size of its Fullerton, Calif., headquarters. Old Mill Products will move into new headquarters in Salt Lake City, Utah., in June.

Your challenge of the EXCITING 60's

—AVERAGE FAMILY INCOME $8,600!

LET ANCHOR HOCKING GLASS PACKAGE RESEARCH HELP YOU CAPTURE A BIGGER SHARE OF CONSUMERS' DOLLARS IN THE 60's!

Wage studies indicate that income levels during the 1960's will spurt to a new high . . . close to $8,600 by 1965. Families with this new "wealth" will be shopping for more and more products to meet growing needs.

The share of dollars these families will spend on *your* products can be substantially affected by adoption of the glass package with all its appeal, convenience and protection advantages. To help you make the best use of *glass packaging*, Anchor Hocking offers the benefits of knowledge and techniques acquired through decades of continuing research.

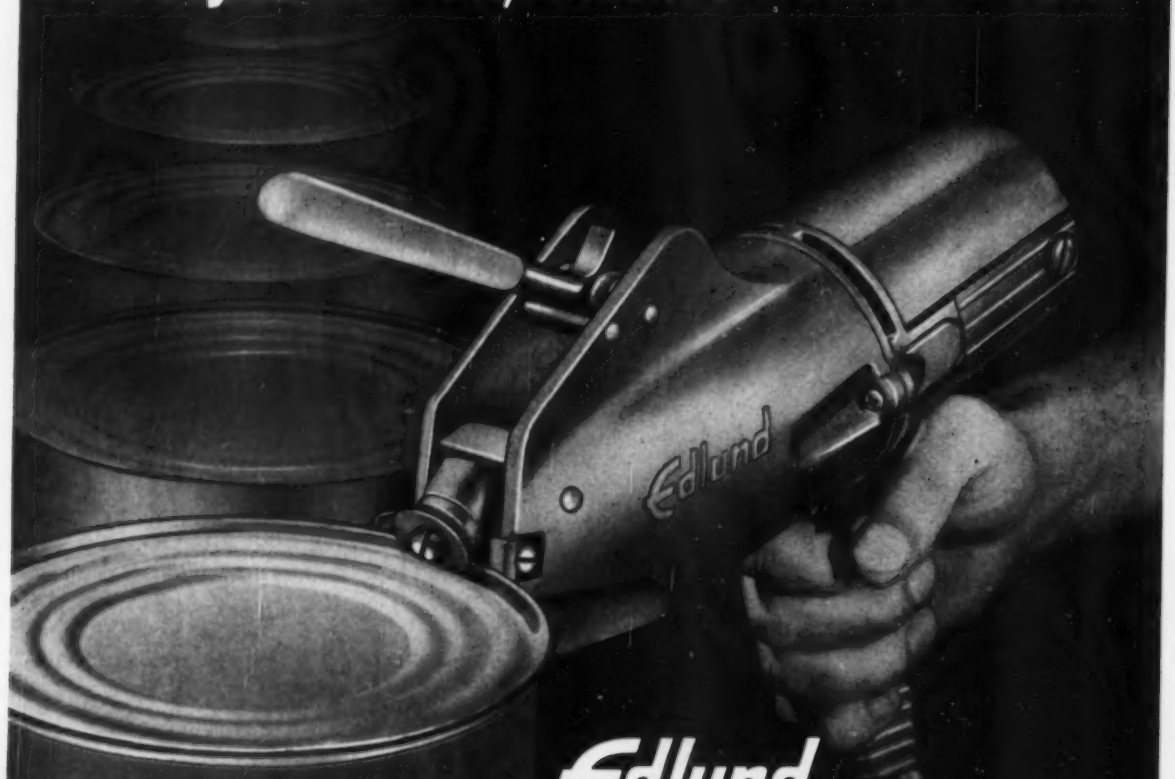
Anchor Hocking research probes for new data, new applications to provide more dependable, efficient, convenient and economical glass containers and closures. It extends from the selection of the raw materials to the final inspection of the finished products. Basic and applied, qualitative and quantitative Anchor Hocking research results in dependable, high-quality packaging for your products—Anchorglass® packaging to help you meet your challenge of the 60's. Anchor Hocking Glass Corporation, Lancaster, Ohio—bringing you the extra values of *specialization* in glass packaging.

ANCHOR HOCKING

Get set for the exciting 60's with Anchorglass Packaging—put an Anchor Man on your team

HOW MANY CANS DO YOU OPEN A DAY?

Do the job FASTER, CHEAPER with the new...



Edlund PORTABLE ELECTRIC CAN OPENER

DO A BETTER JOB FASTER

The new Edlund Portable will open 500-750 cans per hour for you, depending upon your production set-up, leaving smooth edges on every can.

THE ONLY *REALLY* PORTABLE ELECTRIC OPENER

This opener requires no table-attached base. It's as maneuverable as your good right arm and operates with complete efficiency in any production set-up... single can, assembly line, or cans in the case.

STOP MOVING HEAVY CANS!

Just move the Edlund Electric from can to can. It weighs less than a #10 can and is perfectly balanced for easy handling. The pistol grip with trigger on/off switch gives you absolute cutting control.

PAYS FOR ITSELF IN SHORT ORDER

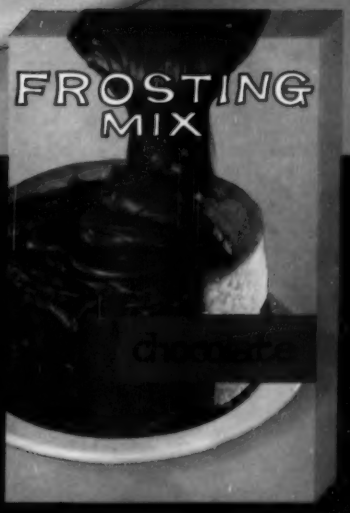
In large or small volume, the Edlund Portable's speed and durability will save you enough time and money to pay its cost many times over. It is simple to clean because you can really "get at" all cutting parts. It works as well on a sardine can as on a #10 can and, in actual kitchen tests, has opened hundreds of thousands of cans and still performs perfectly.

CHECK THESE VERY VITAL STATISTICS

The new Edlund Portable Electric Can Opener has an AC-DC Universal Heavy Duty Motor, is UL approved with 3-prong ground wire safety plug. The motor housing, opener assembly and handle are die-cast aluminum for maximum strength with minimum weight. Both cutting wheel and gear are of hardened tool steel to assure smooth cutting and long wear. Magnet (optional) eliminates "fishing" for lids. Equipped with hang-up bracket, this opener stores out of the way. Provision is also made for permanent installation, if desired.

Available from Edlund Dealers everywhere.

Edlund
Burlington, Vermont



Takes the cake

A wrap by Muirson is a perfect match for the excellence of your product. It shows an excitingly vivid picture of your product's appeal—and this realism is then protected all the way to the store and into the home with Tuff-Coat. This exclusive Muirson finish positively resists scuffing, heat blocking and moisture vapor transmission. Worth investigating.

because MUIRSON specializes in LABELS

Muirson Label Co., Inc., San Jose, Calif.; Peoria, Ill.; and Meriden, Conn.

insurance protection...

geared to the needs

of the industry...

For 52 years, CANNERS EXCHANGE has been totally geared to serving the Food Processing Industry . . . providing the best source of protection against Loss . . . with policy forms and coverage designed to fit individual needs.

here are advantages only CANNERS EXCHANGE can provide for your insurance program:

- Broad and comprehensive NON-ASSESSABLE policies.
- Personalized service from the Warner trained field staff.
- Cooperative, sympathetic handling and prompt payment of loss claims.
- Lowest net costs — consistently —for the industry.
- Outstanding safety protection and rate engineering service.
- Modern, efficient canned goods reconditioning service.

Why not gear these CANNERS EXCHANGE advantages into your insurance program? Write us, **today.** No obligation, of course.

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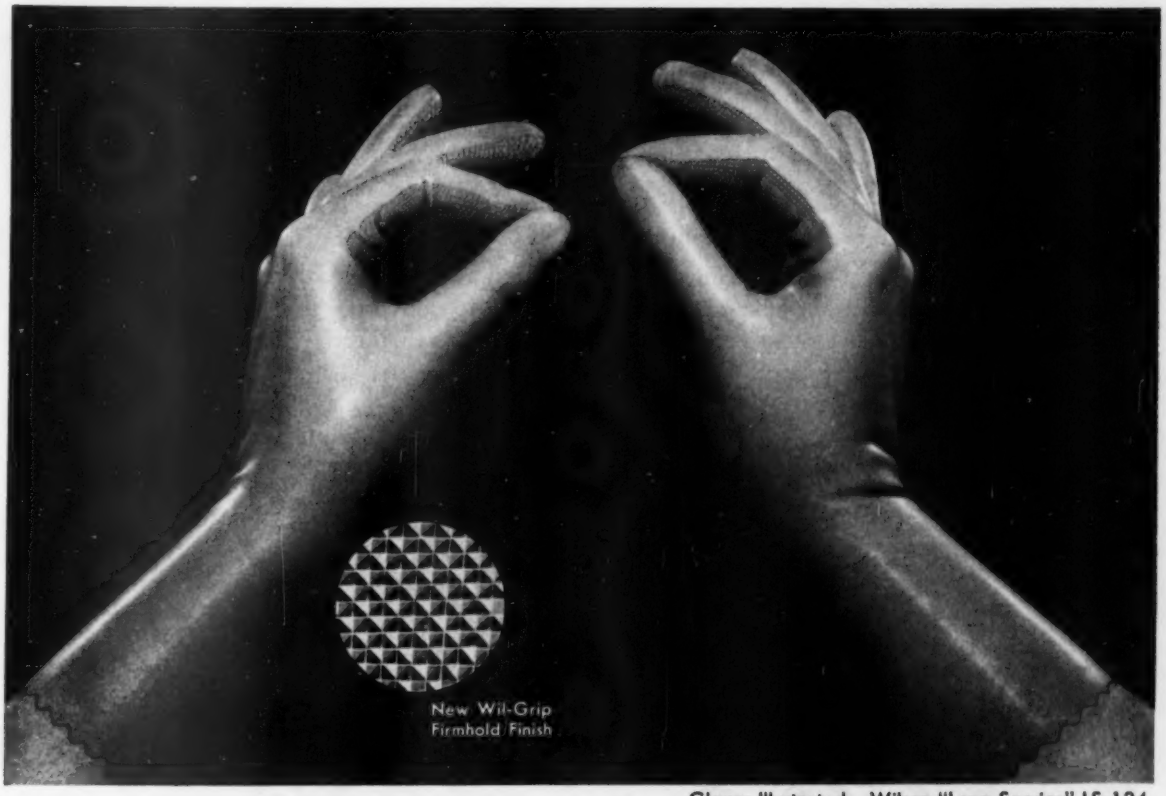


Gloves Illustrated—Wilson "Long Service" LS-124

THE RIGHT COMBINATION FOR FOOD PROCESSING

Super-sensitive Touch plus Non-slip Grip

Wilson® "Long-Service" Gloves are made from pure liquid latex—stand up to rugged service. New WIL-GRIP Firmhold Finish is molded right into fingers and palms. Exclusive Wilson strengthening treatment toughens the surface . . . provides greater resistance to snags and abrasions . . . makes gloves easier to put on and take off. Curved-finger design provides maximum comfort and flexibility. Extra long cuff protects clothing . . . can be turned up to trap liquids.

WIL-GARD

WR-1180-20

Why shop around for gloves when you can get *ten* quality lines from one dependable source . . .

Industrial Gloves: Poly-D (polyethylene disposable), Natural Rubber, Soft-lined Latex, Unlined Latex, Soft-lined Black Neoprene, Unlined Black Neoprene, Unlined White Neoprene, Buna-N, Compar Plastic. **Linemen's Gloves:** Natural Rubber, and Leather Protectors.

Sold Only Through Distributors — Write today for new catalog!

PROTECTION FOR THE HANDS OF INDUSTRY • SINCE 1916

WIL-GARD

THE WILSON RUBBER COMPANY INDUSTRIAL DIVISION CANTON 6, OHIO

A Division of Becton, Dickinson and Company • Pacific Coast Warehouse: 530 Howard St., San Francisco 5, California

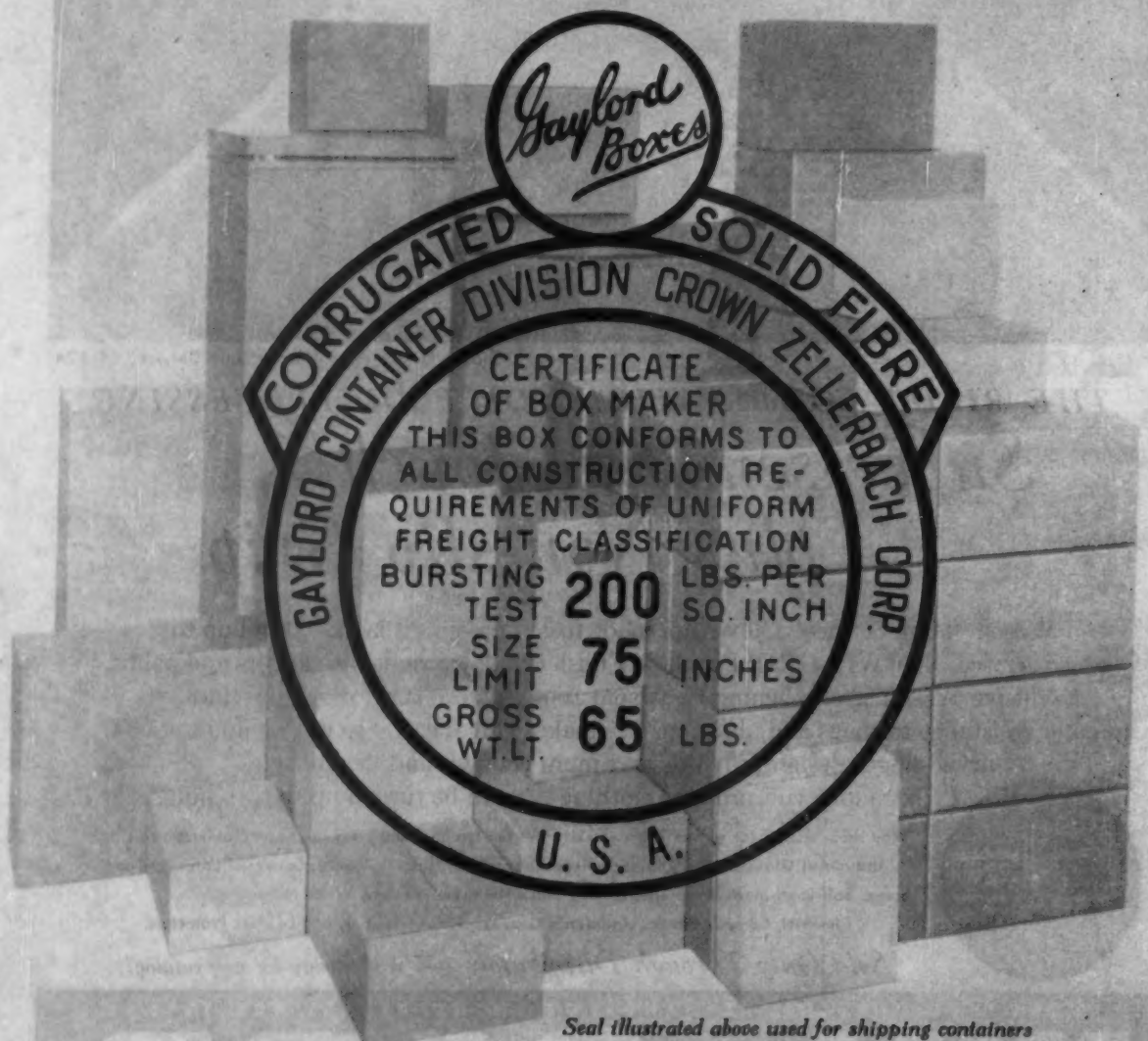
This is only one proof of GAYLORD *quality*

Here you read the measurable qualities in Gaylord Containers.

But how do you measure experience and ingenuity . . . which are *extra* qualities built into every Gaylord box?

Gaylord is part of a completely-integrated, nation-wide organization of packaging talents, devoted to delivering the most efficient, most economical container you can buy.

Your nearby Gaylord Man can prove this. Why not let him try?



Seal illustrated above used for shipping containers conforming to Uniform Freight Classification No. 41.

CROWN ZELLERBACH CORPORATION
GAYLORD CONTAINER DIVISION

IN CANADA · CROWN ZELLERBACH CANADA, LTD. VANCOUVER, B. C.

HEADQUARTERS, ST. LOUIS
PLANTS COAST TO COAST

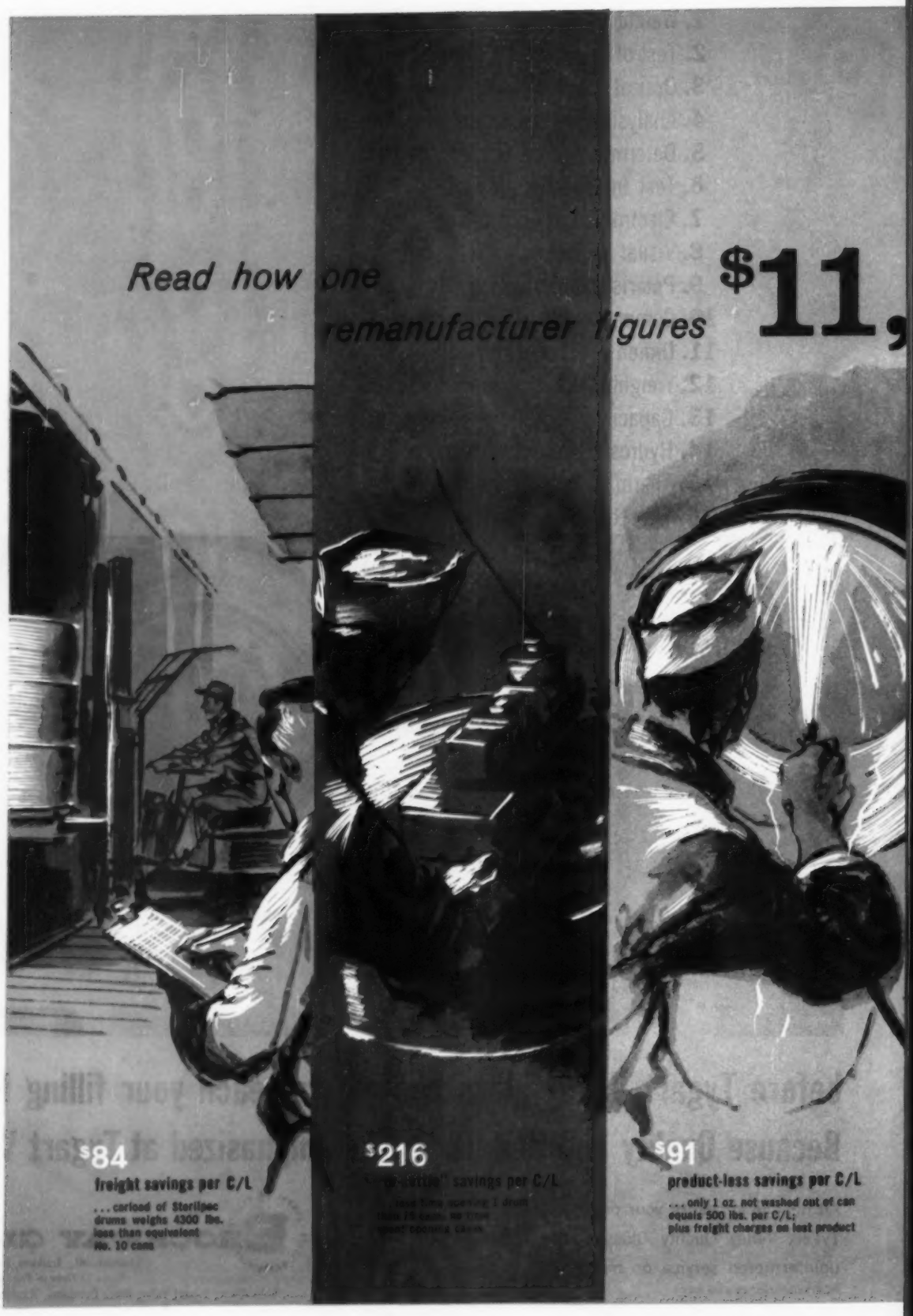
1. Weight of batch ingredient.
2. Test of homogeneity of batch.
3. Optical check of furnace temperatures.
4. Analysis of exhaust gases.
5. Determination of viscosity of glass.
6. Test for specific gravity.
7. Electronic inspection.*
8. Visual inspection.
9. Polariscope evaluation.
10. Comparitor check of dimensions.
11. Dimensional check by gauges.
12. Weight check.
13. Capacity check.
14. Hydrostatic pressure tests.
15. Thermal shock tests.
16. Wall thickness determination.

before Tygart Valley glass containers reach your filling lines. Because Quality and Uniformity are emphasized at Tygart Valley

All the eye appeal of your product shows. And, Tygart Valley Quality Glass containers mean uninterrupted service on modern filling lines.

*Certain finishes and sizes

BROCKWAY GLASS
COMPANY, INC., Brockway, Pennsylvania
Sales Offices in Principal Cities
Subsidiary: Tygart Valley Glass Company, Washington, Pa.


Read how one remanufacturer figures $11,
$84
freight savings per C/L
. . . carload of Steelpac drums weighs 4300 lbs. less than equivalent No. 10 cans
$216
$91
product-loss savings per C/L
. . . only 1 oz. not washed out of can equals 500 lbs. per C/L; plus freight charges on lost product

000 SAVINGS

by ordering concentrates in Rheem STERILPAC Drums

These are not Rheem figures. They are figures calculated by a prominent East Coast remanufacturer who estimates he will save $501 per carload by ordering tomato concentrates in Rheem STERILPAC Drums instead of No. 10 cans. Based on his 1959 requirements of 22 carloads, savings come to $11,022... leap to $16,000 on expected 1960 requirements.

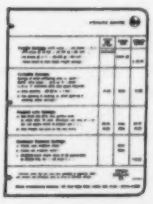
STERILPAC is a brand-new method—revolutionary in concept—that permits food remanufacturers to order concentrates in 55-gallon drums. Each king sized container is equivalent to 75 No. 10 cans. You open, empty and wash only *one* drum instead of 75 cans. No cases to open, either! In addition, STERILPAC drums weigh less, take up less storage space and bring better resale value than the smaller containers. Result: sweeping savings in freight, handling, disposal, product loss and storage costs.

Better concentrate quality comes as a bonus. By sterilizing and flash cooling concentrates *before* they are packed in the STERILPAC drums, canners eliminate potential stackburn. There are no additives involved...no refrigeration required. STERILPAC drums have been shipped across the Equator, and stored outdoors under non-freezing conditions with absolutely no loss of product quality.

Ask your supplier to send you a trial shipment in Rheem STERILPAC Drums, or write to the world's largest manufacturer of steel shipping containers for more information: Rheem Manufacturing Co., 1701 West Edgar Road, Linden, N. J.

Rheem®

Figure your own savings with this easily-completed estimate form. Send for it today!



RESEARCH CUM LAUDE AT YOUR SERVICE!

You can profit from Sunkist's citrus research—pioneering work that has been awarded 118 individual U.S. food processing patents.

It's at your service to help you convert "good" products into *superior* ones...cure production headaches...develop new products.

Sunkist research has already created over 400 products for industry out of California lemons and oranges—and discovered new uses for citrus in everything from pharmaceuticals to shrimp freezing.

Exchange

Sunkist technical experts will be glad to work *with* you—in your own plant—or *for* you—in their own citrus research laboratory. Write, and a Sunkist man will call on you.

Sunkist Growers

PRODUCTS SALES DEPARTMENT

CAN LEMON JUICE DO A JOB FOR YOU?

If you're a food processor... fresh, frozen or canned... fruits and vegetables... fish or fowl... lemon juice can do *at least* one thing for you:

- It can prevent or retard off-flavor tendencies...
- Maintain and even enhance natural food flavor—keep food fresh-tasting longer...
- Prevent oxidation, preserve color, texture and flavor during and after processing...
- Adjust acidity in low-acid foods–retard enzyme action...
- Replace salt in low-sodium diet foods...

And that's only a beginning. The list of jobs lemon juice can do is an extensive one.

If you're not using it... you may be letting the competition get a lead on you. Don't market a product that's merely "as good as" the rest. Exchange Brand Concentrated Lemon Juice—made by Sunkist—can often make it superior for only a penny or two—and add a selling ingredient of distinction to your label.

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The address: Sunkist Growers, Products Sales Dept., 720 E. Sunkist St., Ontario, Calif.

LETTERS FROM READERS

USDA Objects to Peach Article

In the January issue of "Canner/-Packer" we note an article titled "Changes in Canned Fruit Standards in the Wind?" This article is misleading as it does not set forth all the facts regarding USDA's policy with respect to fill weight requirements in canned fruits.

Most U. S. Standards for canned fruits contain a recommended drained weight for the product. However, the present standards for Canned Freestone Peaches do not contain a recommended drained weight. Under the Food and Drug Standard of Fill for canned Freestone Peaches it is required that containers be filled with fruit as full as practicable without impairment of quality. For a number of years studies have been under way to attempt to establish some objective means of determining proper fill in Freestone Peaches. These studies have been very encouraging.

After much study and consultation with canned freestone peach packers, it was decided to initiate a plan whereby compliance with fill could be determined by actual checks on the amount of in-going fruit. This procedure was furnished to all packers prior to the beginning of the canning season. All packers, those under USDA continuous inspection and those not under USDA continuous inspection, were encouraged to use it. A plant does not have to be under USDA continuous inspection to follow the procedure. It goes without saying that USDA cannot certify to fill weights unless an inspector is present to observe that the procedure is properly followed. An alternate plan includes a drained weight procedure based on a 30-day or more equalization period. Many packers prefer the fill weight procedure since it permits control during packing and precludes the 30-day equalization period required under a drained weight plan. We, of course, contacted all packers of freestone peaches as well as the major procurement agencies before putting the plan in effect. The plan was put into effect on freestone peaches prior to the beginning of the season, and the rules were not changed in the middle of the season as indicated by the article in "Canner and Packer." We are pleased with our experiences under this plan and have had very few adverse comments from those who have taken advantage of it.

It is true that because of wide acceptance from the freestone peach packers USDA is studying possibilities of including a fill weight option in other fruit standards. In line with our policy of consulting industry, we have invited comment on suggested fill weight tables. If it is feasible to extend the fill weight program to additional fruits, we will contact procurement agencies, buyers, and other interested parties and permit them to comment on the plan and utilize it in their procurement program.

In any case we would like to make it clear that our studies will not change any standards to the extent that it will exclude those plants which do not have USDA continuous inspection. We have no intention of discriminating against any packer just because he does not have USDA continuous inspection. If we extend fill weights to other fruits, we have no intention of deleting drained weight requirements. Every packer would have the option of either the fill weight plan under in-plant inspection or the drained weight plan under either in-plant or lot inspection. However, if at some future date circumstances necessitate a further change in our approach to proper fill of containers, we would be obliged to give serious consideration to these change as we do with any other factor in the standards.

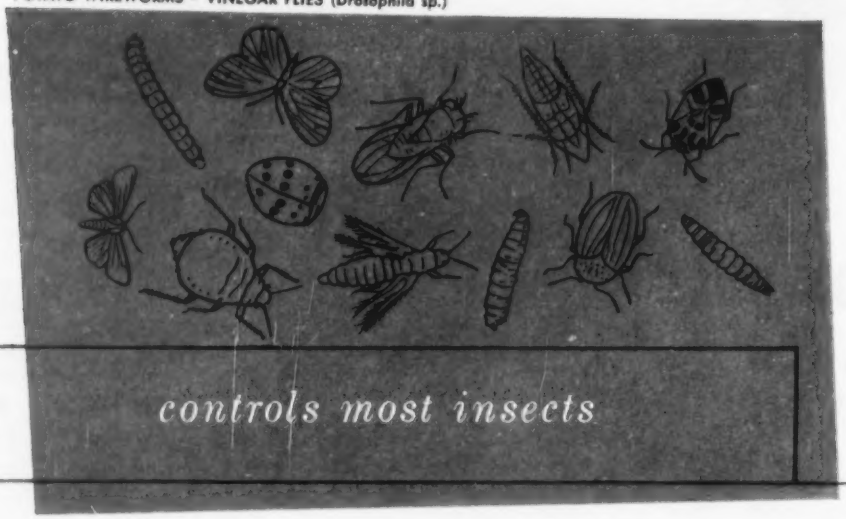
The article appearing in the January issue has created some concern in the industry. It is understandable to us why the article caused much concern. The reason, of course, is that the article does not convey all of the facts and consequently is misleading. We believe it would be in order and helpful if the "Canner/Packer" would now publish a more complete and accurate story concerning the studies we are making in regard to fill weights in canned fruits.

F. L. SOUTHERLAND

Chief, Processed Products, Standardization and Inspection Branch, Fruit and Vegetable Division, USDA.

● *We thank Mr. Southerland for the additional information on this subject. We still feel there is merit to the comments of some fruit canners that an in-going-weight specification tends to create a pressure toward compulsory continuous federal inspection, that canners should have been asked how they liked their 1959 experience (not just whether the tables used seemed accurate), and that more publicity regarding the experiment should have been given in advance*—Ed.

Insects: APHIDS • COLORADO POTATO BEETLES • CORN EARWORMS • DIAMONDBACK MOTHS DIPTEROUS LEAF MINERS • FLEA BEETLES • HARLEQUINN CABBAGE BUGS • IMPORTED CABBAGEWORMS LEAFHOPPERS • MEXICAN BEAN BEETLES • MITES • ONION MAGGOTS • ONION THRIPS • SOUTHERN POTATO WIREWORMS • VINEGAR FLIES (*Drosophila* sp.)



Vegetable Crops: BEANS (lima) • BEANS (snap) • BEETS • BROCCOLI • CABBAGE • CARROTS CAULIFLOWER • CELERY • COLLARDS • CUCUMBERS • ENDIVE • KALE • LETTUCE • ONIONS • PARSLEY PARSNIPS • PEPPERS • POTATOES • RADISHES • SPINACH • SQUASH (summer and winter) • SWISH CHARD TOMATOES • TURNIPS (roots) • TURNIPS (tops) *Melons:* CANTALOUPES • MUSKMELONS • WATERMELONS

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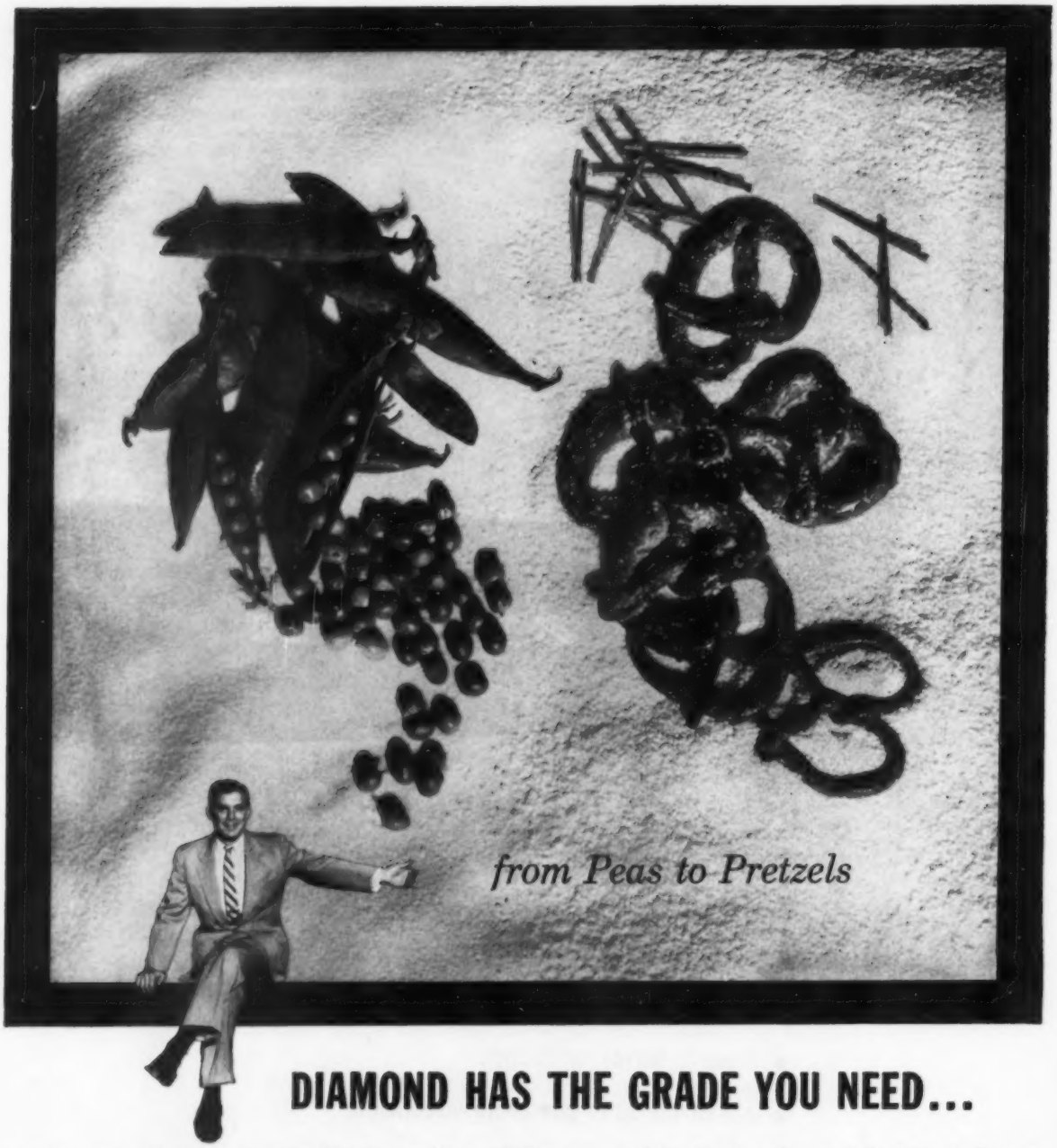

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How To Allocate Prod. Costs in Uniform Accounting Plan

Third of four articles on packing cost control

DR. STIER
Effective use of labor is the most important factor in controlling processing costs.

This report on allocating production costs uniformly follows to others—one on the general principles of uniform cost accounting, and one on how to apply these principles to raw product costs.

The fourth and final article in the series will appear next month. It is by Dr. Wayne Bitting, and is on cost accounting in food marketing.—Editor.

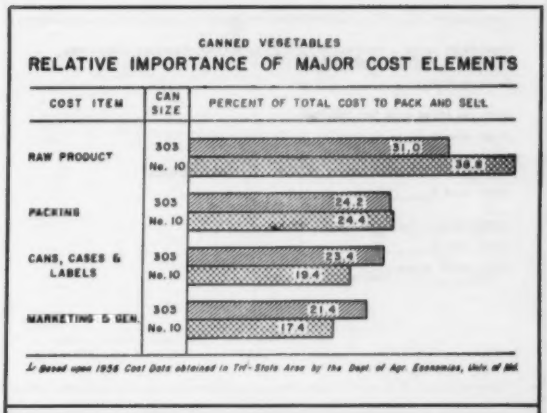
By Dr. Howard L. Stier

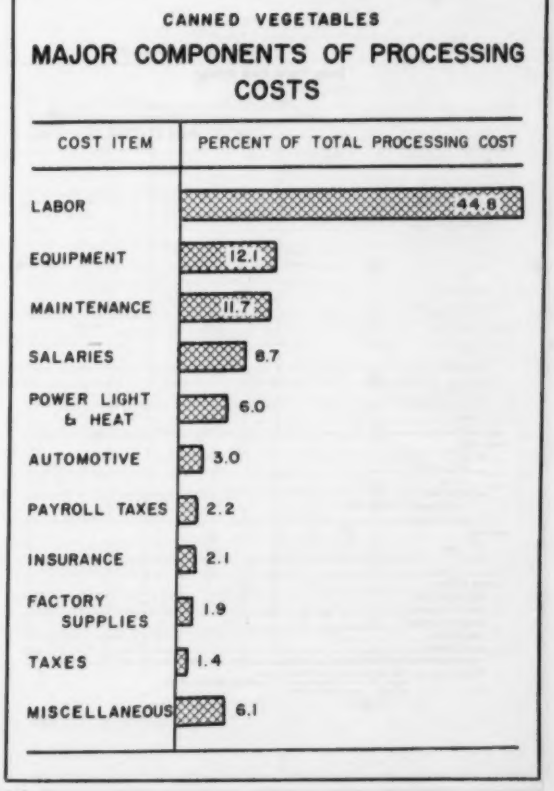
National Canners Association
Washington, D. C.

The cost of the in-plant functions of canning, from preparation through retorting, represents about one-fourth of the total cost to pack and sell canned vegetables. Thus, these costs, in the aggregate, represent one of the major cost outlays of the canner second in relative importance to raw product costs.

The largest component of packing and processing costs involves the cost of labor. This one component alone represents almost one-half of the total packing costs. According to the cost data assembled by the Agricultural Economics Department of the University of Maryland for the Tri-State Area in 1956, direct and indirect labor costs represented, on the average, 45 per cent of the total packing costs. This figure is the average for five different vegetables—corn, peas, green beans, lima beans, and tomatoes.

Thus, the effective use of labor is, by far, the most important factor in controlling costs of processing. Costs of equipment and maintenance costs (both plant and equipment) each represent about 12 per cent of the total processing cost. Salaries of foremen and other supervisory and administrative personnel represent about 9 per cent of total processing costs; power, heat and light another 6 per cent; and factory supplies about 2 per cent.





Keep Track of Labor Costs

Obviously, in the control of plant operations, the great importance of labor as a cost item dictates most attention to this factor. A daily record of such measures as direct labor cost per case or dozen containers of the canned product can be used effectively to point up trends and relative efficiencies. A daily cost record (or man hours expended) for each of the principal operations in the plant is almost a necessity if accurate decisions are to be made and the correct action taken with respect to labor utilization. Technical personnel, especially those in the quality control department should be equally efficiently used. As supervisory personnel, they can be effectively used to uncover areas in the plant where operating efficiency can be improved.

In certain types of operation, the use of an incentive pay

DAILY COST REPORT

CORN

DATE_____

CORN RECEIVED:

	In Husk	Husked
Growers Direct		
Interplant In		
Outside Purchases		
Inventory at Beginning of Day		
Less: Inventory at End of Day		
Less: Interplant Out		
Used in Production		

PROCESSING LABOR - General, Weighing, Receiving, Husking, Inspecting, Trimming, and Cutting

Total Cost $_____

HANDLING LOOSE CORN FOR DELIVERY

Total Cost $_____

CANNING LABOR - Brine Maker, Filling, Closing & Cooking

Total Cost $_____

WAREHOUSING - Casing Out and Storing

Total Cost $_____

Total Plant Hours
(Use inspection time hours as basis)

system can be advantageously developed and used to improve efficiency and reduce the unit cost of processing. However, before a usable system can be installed, the canner must have a thorough and accurate knowledge of his production rates and costs. This requires production records and cost records.

Watch the Equipment

A knowledge of the relative cost of raw material per unit of the canned product will provide the basis for determining the importance of controlling container fill. However, before actual control can be exercised in this operation, the canner must have data at hand which tell him machine capabilities (i.e., filling machines) and the maximum range of filled weights for the product processed. The saving of 1/10 of an ounce on the average per can and still have no possibility of any can being below label weight can over a period of several months amount to considerable savings.

During a single season involving the pack of 200,000 cases of 24/303's, an additional 30,000 cans (1250 cases) can be packed by simply reducing the net content of each can on the average of 1/10 of an ounce. The value of this savings alone should approach $4,000. Such savings are not unusual. In fact, there are a number of instances where effective use of statistical control charts when applied to controlling container fill have resulted in considerably greater savings.

Not only has it been possible in many instances to reduce the average fill, but attain much greater uniformity of fill weights and still insure the net contents of all cans being equal to or above the declared label weight. The use of statistical control charts with the container filling operation provides an accurate basis for estimating maximum and minimum fill weights daily or for the entire pack.

CANNING COMPANY

Daily Corn Cost Report

Factory _____ Date _____

	Actual Today	Actual To Date	No. 303 Basis Today	No. 303 Basis To Date
CASES PACKED				
No.				
No.				
No.				
Total				
RAW PRODUCT				
Carry-Over Previous Day				
Tons Harvested (Own)				
From Factory				
From Factory				
Total				
Less Transferred				
Carry-Over End of Day				
Total Tonnage				
DIRECT LABOR COST—	Cost		Per Doz.	
1. Receiving				
2. Storage				
3. Preparation				
4. Canning				
5. Cook and Cool				
6. Packing and Warehouse				
7. General				
Total				
SUGAR USED—				
Lbs. Used				
W/E and Cream				
Vacuum				
Lbs. Per 100 Cases				
No. 300 Budget @ W/E (10) Cream				
No. 10 Budget (0)				
TOPPING—				
Labor				
Charged				
Per Case				
ACREAGE STATISTICS—				
Acres Stripped (Own)				
Tons Per Acre (Own)				
Cases Per Ton (Budget 24)				
Cases Per Acre				
Acres Abandoned				

CONVERSION FACTORS FOR CASES to No. 303 Basis: 6 oz. 1.625; 7 fl. oz. 1.200; 12 oz. 1.125; 2 lbs 1.250; 10 lbs 1.625

Factory Labor Cost: No. 6 Actual Dozen (10's 2 dozen per case)
No. 8 303 - 2 - 10 2 dozen per case. 16 and 6 oz. 3½ dozen per case.
All other—dozen 303 content basis

WEEKLY DIRECT LABOR

COMPANY _____

EMPLOYEE NO. _____ NAME _____ WEEK BEGINNING _____ WEEK ENDING _____

BASE RATE $_____ PER HOUR PERIOD NUMBER _____

PLANT OPERATION	SPECIFIC JOB PERFORMED		Hours Worked Per Day: MON	TUES	WED	THUR	FRI	SAT	SUN	Weekly Total Hours
RECEIVING (3)	RECEIVING	(01)								
	UNLOADING	(02)								
	GRADING	(03)								
	DOCTORMAN	(04)								
	FARMAN	(05)								
	LAB. MOISTURE TESTER	(06)								
	SCALABLE CAR GRADER	(07)								
SILAGE (2)	RAKERS	(01)								
	HAULERS	(02)								
	STACKERS	(03)								
	TRACTOR OPERATOR	(04)								
PREPARATION (3)	HUSKING	(01)								
	HUSKER MAINTENANCE	(02)								
	WASHING	(03)								
	CAR INSPECTION	(04)								
	TRIMMING	(05)								
	CUTTING	(06)								
	CUTTER MAINTENANCE	(07)								
	KERNEL INSPECTION	(08)								
	SILAGE	009								
	BLENDING	100								
	CREMODRIZER	111								
	BRINE MAKER	120								
	CLEAN UP	130								
CANNING (4)	CAN HANDLERS	(01)								
	FILLERS	(02)								
	CLOSING	(03)								
	CLOSING AND FILLING MAINTENANCE	(04)								
	STRAPPING	(05)								
	CAN TRUCKER	(06)								
	CRATE PUSHER	(07)								
	CLEAN UP	(08)								
COOKING AND COOLING (5)	HOISTMAN	(01)								
	COOKER MAN	(02)								
	COOLER TANK OPERATORS	(03)								

If the canner has a fairly complete and accurate record of spoilage, the relative importance of this factor can be estimated and action taken to decrease it. One major cause is failure of the top double seam.

Again, the use of statistical control charts for the closing machine operation can be very effective in reducing costs in this operation. Sampling inspection of incoming container shipments can further reduce the factor of spoilage if there is a very high degree of probability that another factor causing spoilage is a seam in the shipped can.

A record of case yields per ton of raw product can provide a very effective means of reducing unit costs for a given canned product. This type of record should be kept on a daily basis so that corrective action can be taken promptly, whenever required. Failure to handle the raw material properly and promptly in the plant or undue waste or spillage in the processing operation can lose all of the gains that might have been accomplished in the production or procurement of the material.

The charts and cost record forms are examples of how some canners keep a record of and control their in-plant costs. For further details and information on setting up a statistical control program, the following may be helpful.

References

National Canners Association: 1954. Proceedings of the Technical Session 1954 National Convention. Pages 69-77. The following papers: Brittan, W. A., Filling Semi-Solid Products p. 77. Edwards, H. I., Filling Semi-Solid Products p. 76. Link, H. L. and H. Dobson, Fillers for Granular Products p. 71. MacPhail, Ian, Filling Liquid Products p. 70. McKinley, E., Filling Liquid Products p. 69. Way, C. B., Fill Control of Granular Products p. 73.

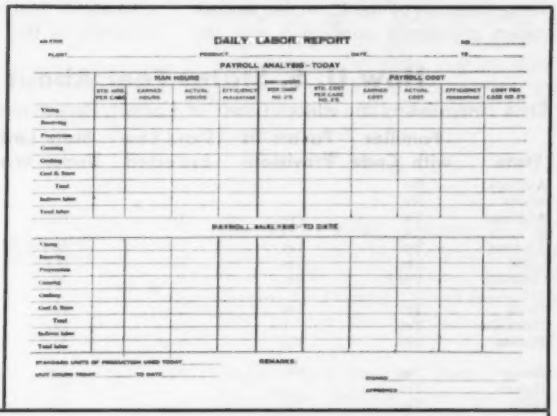
Gieseker, L. and L. V. Strasburger: 1955. A Modified Lot Plot Sampling Procedure for Controlling Container Fill. American Society for Quality Control, National Convention Transactions, 1955:265-273.

Way, C. B.: 1955. Fill Control in the Canning Industry. American Society for Quality Control, National Convention Transactions, 1955: 505-502.

Weimerskirch, R. I. and C. B. Way: 1956. A Mutual Approach to Quality Control by Can Manufacturer and Food Processor. American Society for Quality Control, National Convention Transactions, 1956: 313-321.

Stier, Howard L.: 1957. Quality Control Practices and Problems in Food Processing. Conference Papers, Quality Control and the Consumer Conference, Rutgers University, 1957: 21-31.

Stier, Howard L.: 1958. Statistical Quality Control—Milestone or Millstone? National Association of Margarine Manufacturers Transactions, Fifth Annual Margarine Research Symposium, October, 1958.



DAILY LABOR REPORT

PLANT _____ PRODUCT _____ DATE _____ NO. _____ TO _____

PAYROLL ANALYSIS - TODAY

	RUN HOURS					PAYROLL COST				
	STD. HRS. PER CASE	EARNED HOURS	ACTUAL HOURS	EFFICIENCY PERCENTAGE		STD. COST PER CASE NO. 2/3	EARNED COST	ACTUAL COST	EFFICIENCY PERCENTAGE	COST PER CASE NO. 2/3
Viscing										
Reworking										
Preparation										
Cooking										
Cooling										
Cool. & Store										
Total										
Indirect labor										
Total labor										

PAYROLL ANALYSIS - TO DATE

Viscing										
Reworking										
Preparation										
Cooking										
Cooling										
Cool. & Store										
Total										
Indirect labor										
Total labor										

STANDARD UNITS OF PRODUCTION USED TODAY _____ REMARKS: _____

UNIT HOURS TODAY _____ TO DATE _____

SIGNED _____

APPROVED _____

DAILY RECORD OF RAW PRODUCT UTILIZATION

PERIOD COVERED _____ TO _____

HIGH _____ OR LOW _____ PERIOD

BY _____

DATE AND AVERAGE PRICE PAID PER TON	RAW PRODUCT 1/	VARIETY 1/	TONS PER DAY 2/	QUANTITY CANNED				HUSKER HOURS OPERATED FOR EACH STYLE AND CAN SIZE 3/	CASE YIELD PER TON FOR EACH STYLE AND CAN SIZE
				NUMBER OF CASES	CAN SIZE	STYLE	GRADE		
	TONS		TONS					HOURS	CASES
MONDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
TUESDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
WEDNESDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
THURSDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
FRIDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
SATURDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									
SUNDAY	CARRYOVER								
	RECEIVED								
	RUN								
Av. PRICE PER TON									

1/ EXCLUDES FRESH SALES.
2/ IF EXACT TONNAGE OF EACH VARIETY IS NOT KNOWN, THEN AN ESTIMATE SHOULD BE GIVEN.
3/ TO THE NEAREST QUARTER HOUR.

Thorough Research, Cautious Application for AFDOUS Code

State regulatory agencies are expected to enact provisions of the AFDOUS model frozen food code tolerantly, and on a gradual basis. This is evidenced by the statements of Harold Clark, president of Assn. of Food & Drug Officials of the U. S., the organization principally concerned with developing the code, and by the results of a survey conducted by Canner/Packer among health authorities in the 50 states and Puerto Rico.

Speaking at the annual convention of Assn. of Frozen Food Packers in Chicago in March, Mr. Clark described progress of the code from the time it was first officially considered by AFDOUS in 1956, through establishment of the working arrangement between AFDOUS and NAFFP.

Today, the half of the code requiring zero temperatures for frozen products has been completed, and the second half — which may establish bacteria standards for the industry—is still in the research stage. It is hoped that the preliminary report on the bacteria work can be given at the AFDOUS meeting in Dallas, June 1960.

Legislative Action Outlook

Meanwhile, recognizing the unfinished state of the studies, only a few states have made any effort to initiate legislation. Massachusetts has passed a law, which became operative Feb. 1

How U. S. States Feel About The AFDOUS Frozen Food Code

Data compiled by the editorial staff of Canner/Packer from responsible individuals in the various state governments.

State	Familiar with Code	Favors Its Provisions	State Law Expected	State Law Under Way	Man, Department Concerned with Possible Code
Alabama	No	...	...	...	G. R. Wright, Bur. Sanitation, Dept. Public Health, Montgomery 4.
Alaska	No	...	...	...	Amos J. Alter, Chief Environmental Health, Juneau.
Arizona	Yes	Yes	Yes	No	Mason A. Lang, Sup. Food Sanitation, Dept. of Health, Phoenix.
Arkansas	Yes	Yes	Yes	No	Creo A. Jones, Dir., Div. of Food, Drug and Milk Control, Little Rock.
Calif.	Yes	Yes	Yes	No	Milton P. Duffy, Dept. of Public Health, San Francisco.
Colorado	Yes	Yes	Yes	No	O. J. Wiemann, Chief, Milk, Food & Drug Section, Denver.
Conn.	Yes	Yes	Yes	No	Harold Clark, Chief, Food Division, Hartford.
Delaware	Yes	...	No	No	Donald K. Harmeson, Dir., Div. of Sanitary Eng., Dover.
Florida	Yes	Yes	Yes	Yes	A. W. Morrison, Jr., Dir., Div. of Sanitation, Tallahassee.
Georgia	Yes	Yes	No	No	F. S. Carr, Chief, Food and Feed Section, Atlanta.
Hawaii	Yes	...	...	No	George H. Akau, Food Commissioner & Analyst, Hawaii.
Idaho	Yes	Yes	Yes	No	Kenneth L. Pool, State Sanitarian Supv., Eng. & Sanitation Section, Boise.
Illinois	Yes	Yes	Yes	No	Lowell Oranger, Supt., Div. of Foods, Dairies & Standards, Springfield.
Indiana	Yes	Yes	Yes	No	A. C. Offutt, State Health Commissioner, Indianapolis.
Iowa	Yes	Yes	Yes	No	L. B. Liddy, Chief, Dairy & Food Division, Des Moines.
Kansas	Yes	...	No	No	Evan Wright, Dir., Food & Drug Division, Topeka.
Kentucky	Yes	...	No	No	Shelby Johnson, Dir., Division of Foods & Drugs, Frankfort.
Louisiana	Yes	Yes	Yes	Yes	Leo W. Sprath, Ass't Dir., Div. of Food and Drugs, Baton Rouge.
Maine	Yes	Yes	Yes	No	C. P. Osgood, Chief, Division of Inspection, Augusta.
Maryland	Yes	Yes	...	No	C. S. Brinsfield, Chief, Div. of Food Control, Annapolis.
Mass.	Yes	Yes	Yes	Yes	George A. Michael, Dir. Div. of Food & Drugs, Boston.
Michigan	...	...	...	...	
Minn.	Yes	Yes	No	No	G. A. Vacha, Chief Bacteriologist, Bacteriological & Canning Section, St. Paul.
Miss.	Yes	Yes	No	No	M. P. Etheredge, State Chemist, Jackson.
Missouri	Yes	Yes	Yes	No	Clifford L. Summers, Ass't. Environmental Consultant, Jefferson City.
Montana	Yes	Yes	Yes	No	Claiborne W. Brinck, Dir., Div. of Environmental Sanitation, Helena.
Nebraska	Yes	...	No	No	G. B. Flagg, Chief, Dept. of Agriculture & Inspection, Lincoln.
Nevada	Yes	Yes	No	No	W. W. White, Director, Div. of Public Health Eng., Carson City.
New H.	Yes	Yes	Yes	Yes	Gilman K. Crowell, Chief of Bureau, Dept. of Health, Concord.
New J.	No	...	...	...	Milton Ruth, Chief, Bureau of Food and Drugs, Trenton.
New Mex.	No	...	...	...	Carl Henderson, Chief, Milk & Food Section, Environmental Sanitation, Santa Fe.
New York	Yes	...	No	No	Granville W. Larimore, M.D., Deputy Commissioner, Dept. of Health, Albany.
No. Car.	Yes	Yes	Yes	No	J. W. R. Norton, M.D., State Health Director, Raleigh.
No. Dak.	Yes	Yes	Yes	No	E. W. Constable, State Chemist, Bismarck.
Ohio	...	...	...	...	
Okla.	Yes	...	No	No	George Compson, Chief, Legal Division, Dept. of Health, Oklahoma City.
Oregon	Yes	...	No	No	J. D. Patterson, Ass't Chief, Div. of Foods and Dairies, Salem.
Penna.	Yes	Yes	Yes	Yes	Delmar K. Myers, Acting Dir., Bureau of Foods and Chemistry, Harrisburg.
Puerto R.	No	...	...	...	Charles Romney Joseph, Chief, Bureau of Environmental Sanitation,
Rhode Is.	Yes	Yes	Yes	No	Jeremiah A. Dailey, M.D., Director of Health, Providence.
So. Car.	...	...	...	...	
So. Dak.	...	...	...	...	
Tenn.	Yes	Yes	Yes	Yes	Eugene H. Holeman, Dir., Div. of Foods, Drugs & Dairies, Nashville.
Texas	Yes	Yes	...	No	J. F. Lakey, Dept. of Public Health, Austin.
Utah	...	...	...	...	
Vermont	Yes	Yes	Yes	...	Francis C. Lawler, Sc.D., Chief, Bureau of Laboratories, Montpelier.
Virginia	Yes	...	No	No	Rodney C. Berry, State Chemist, Richmond.
Wash.	Yes	Yes	No	No	LeRoy Meek, Chief Food Inspector, Dept. of Agriculture, Olympia.
West Va.	...	...	...	...	
Wisconsin	Yes	...	No	No	John C. McClellan, Admin. Supv., Food Inspection, Madison.
Wyoming	...	...	...	...	

but will not be applied until Aug. 1. Connecticut is likely to be the second state to have legislation, and four others (see below) have some sort of legislative consideration under way.

However, as the tabulation shows, 39 states are watching development of the code closely, and 29 of these have officials generally in favor of what they know of it. Finally, 23 of the 39 (plus the six already mentioned) anticipate that legislative action will follow eventually.

Meeting Code Provisions

How well can the frozen food industry and associated industries fulfill the requirements of the model code, insofar as the zero temperature part is concerned? Theoretically, reasonably well.

Speaking as a packer, R. Frank Dickinson feels that the zero standard poses few problems. Mr. Dickinson, traffic manager for Pasco Packing Co., also was a speaker at the NAFFP convention in Chicago.

Similarly, the railroads are ready, according to Al C. Dewhirst, refrigerator dept. manager for the Santa Fe Railroad. Currently spending $56 millions for new facilities, the U. S. rail lines will have over 5,700 mechanical reefer cars at the end of 1960, all of them capable of holding zero.

Highway Transport

The trucking industry faces a more difficult problem, said Cyrus B. Weller of Refrigerated Food Express, Dallas, Texas. Most of the regulated trucking lines have the capability of holding zero with their equipment. But out of all of the reefer trucks in service in the country today, a great many are not suited to zero transportation.

Refrigerated warehousing is used to rules and regulations, according to James J. Gallery, Quincy Cold Storage & Warehouse Co., Boston, Mass. Not only does the industry as a whole have them, but his company and several others have some special ones through their affiliation in Trans-American Refrigerated Services. They, therefore, are not alarmed at the prospects of a code, but they do recognize there will be problems in dealing with personnel handling incoming trucks, etc.

Distribution Outlook

Joseph Gaudio, Gaudio Bros., Philadelphia, Penna., said the distributors are for a code, but don't anticipate an easy time complying with it. A truck making 30 stops in seven hours may start out at zero or below, but who knows what the level will be at the final load, he suggested.

The AFDOUS code for some retailers means principally the need for better storage facilities, and for others extensive training of employees, said Doyal Lank, Marsh Food Liners, Yorktown, Ind.

Food Brokers Elect Officers of Local Associations

Most city and regional groups held elections in Dec.-Jan. meetings

Atlanta Food Brokers Assn., Atlanta, Ga. Pres., Ben F. Gay, Brown-Gay, Inc.; V-P, Jack Bowen, Jack Bowen Co.; Sec., W. E. "Red" Putman, Clanton Sales Co., 113 Courtland St., S.E.; Treas., Roy DeVore, DeVore-Knight & Co.

Birmingham Food Brokers Assn., Birmingham, Ala. Pres., A. H. Smith, Perry Sales Co.; V-P, L. B. Curry, Curry Brokerage Co., Inc., 2124 Fourth Ave., South; Sgt. at Arms, W. P. Phillips, Phillips Brokerage Co.; Treas., R. A. Nunnalley, J. M. Cook Brokerage Co.

Buffalo Food Brokers Assn., Buffalo, N. Y. Pres., Richard K. Grant, Gager-Grant Co.; V-P, James W. Logan, Abercrombie, Logan and De Rose; Sec., Paul E. Coleman, Starck and Coleman, 628 Bailey Ave.; Treas., Paul W. Florian, Hughes-Florian Co.

Chattanooga Food Brokers Assn., Chattanooga, Tenn. Pres., R. D. Wheeler, W. N. Jones and Co., 1300 Market St.; Sec-Treas., Louis Tucker, Louis Tucker Co.

Chicago Food Brokers Assn. Pres. Keven O'Shaughnessy, Roll, Swanson and O'Shaughnessy; V-P, James C. Dawson, Dawson Sales Co.; Sec-Treas., Brad Sturgeon, Armstrong and Sturgeon, 212 South Marion St., Oak Park, Ill.

Cincinnati Food Brokers Assn., Cincinnati, Ohio. Pres., Jim Evans, J. H. Evans Co., 6914 Miami Rd.; V-P, Ray Wieber, Wieber Johnson Co.; Sec., Bill Splain, Splain & Loysen Co.

Cleveland Food Brokers Assn., Cleveland, Ohio. Pres., W. S. Crates, J. A. Plain Co.; V-P, F. C. Lynch, Jr., C. H. Brewster Co.; Treas., Donald W. Carney, Carney and Associates, Inc.; Sec., Robert R. Culp, A. W. Fodor Co., 3587 Lee Road; Dir., Donald F. Wenger, McLaughlin-Wenger Co.

Colorado Food Brokers Assn., Pres., Jack Kirkpatrick, Kirkpatrick Brokerage Co.; V-P, Bill Snider, Snider Brokerage Co.; Sec-Treas., Dick Vosburgh, Vosburgh Brokerage Co., 1030 15th St., Denver.

Connecticut and Western Massachusetts Food Brokers Assn. Pres., Thomas R. Riley, Thomas R. Riley Co.; V-P, John M. Walton, Jr., John W. Walton Co.; Sec-Treas., Edgar J. Carignan, Francis X. O'Hare Co., 1330 Beacon St., Brookline, Mass.

Dallas Food Brokers Assn., Dallas, Tex. Pres., Ben O. Hindman, Hindman Sales Co.; 1st V-P, N. Troy McDaniel, Oliver-Taylor Co.; 2nd V-P, A. J. Bundschuh, Bundschuh-Davis Co.; Sec., Horace R. Moore, Horace R. Moore Sales Co., 5526 Dyer; Treas., Robert C. Tyson, Tyson Brokerage Co.

Evansville Food Brokers Assn., Evansville, Ind. Pres., Don Burgderfer, Don Burgderfer Co.; V-P, Charles Gregory, Shunk, Gregory and Herron; Sec., W. R. Block, Walter R. Block Co., 208 Indiana Bank Bldg.

Grand Rapids Food Brokers Assn., Grand Rapids, Mich. Pres., Ralph L. Ritter, Ralph Ritter Co.; V-P, Russell J. Smith, R. J. Smith Co.; Sec.-Treas., B. Van Dusen, Van Dusen and Graham, 217 Jefferson Ave., SE.

Jackson Food Brokers Assn., Jackson, Miss. Pres., Ed Ory, Jr., Ed Ory Co.; V-P, Marcus Cox Co.; Sec-Treas., Hood Garland, Fridge and Nichols, 785 Commerce St.

Kansas City Food Brokers Assn., Pres., G. K. Hamilton, Jr., Hamilton Brokerage Co.; V-P, C. J. "Ted" Chenault, Nelsen Brokerage Co.; Sec-Treas., Robert L. Lowe, Lockhart-Lowe Foods Inc., 1104 Union Ave.

Little Rock Food Brokers' Assn. Little Rock, Ark. Pres., James W. Leslie, Leslie Brokerage Co.; V-P, Merrill McMillan, McMillan Brokerage Co.; Sec., George Arendt, George Arendt Co., 509 E. Markham St.

Los Angeles Food Brokers Club, Los Angeles, Calif. Pres., D. V. Brown, Brown-Massie and Assoc., Inc.; 1st V-P, Paul V. Sturdivant, Sturdivant-Walker Co.; 2nd V-P, Phil D. Bortells, Tri-Sales Co.; Sec-Treas., H. S. Bronstein, Cook-McFarland Co., 712 Bendix Bldg., 1206 Maple Ave.

Louisville Food Brokers Assn., Louisville, Ky. Pres., C. L. McGuire, Jr., C. L. McGuire and Co.; V-P, E. J. Hofstetter, The Hofstetter Co.; Sec-Treas., H. B. Hunter, Jr., Hugh B. Hunger Co., 4020 Taylorsville Rd.; Ass't Sec., George E. Adams, George E. Adams Co.

Maryland Food Brokers Assn., Pres., George G. Evans, Evans Brokerage Co.; V-P, Arthur G. Hurley, Hurley Brokerage Co.; Sec., M. Tyler Kohler, Clagett & DePuey Co., 217 E. 27th St., Baltimore; Treas., David Bond, Kluge-Finkelstein & Co.

Miami Food Brokers Assn., Miami, Fla. Pres., George Hoffman, George Hoffman Co.; V-P, Les Harrison, Harrison Brokerage; Sec., Bill Thompson, Earl V. Wilson Co., 3500 N.W. Seventh St.; Treas., John Owens, Clark and Owens.

Middle Tennessee Food Brokers Assn., Nashville, Tenn. Pres., Arthur Jones, Jones and Miller Brokerage Co.; V-P, Carroll Rye, Rye and Allen Brokerage Co.; Sec-Treas., James Derryberry, Thweatt and Derryberry Brokerage Co., 31 Lafayette St.

Montgomery Food Brokers Assn., Montgomery, Ala. Pres., Sanford Marcus, Ralph Loeb and Co. Inc., P.O. Box 3.

New Orleans Food Brokers Assn., New Orleans, La. Pres., Charles Cosse, Al Davison Food Sales; V-P, J. Dall Thomas, J. Dall Thomas Co.; 8200 West Metairie, Metairie; Tony Lemoine, Aegis Sales Co.; Treas., John Espenan, Reliable Brokerage Co.

New York City, Association of Food Distributors, Inc. Pres., E. Norton Reusswig, Lestrade Bros., Inc., 105 Hudson St.; V-P, Marvin Ender, Louis Ender, Inc.; V-P, Lewis E. Nordlinger, Steinhardter and Nordlinger, Inc.; Treas., W. C. Martin, Jos. A. Zaloom & Co., Inc.

Northeastern Michigan Food Brokers Assn. Pres., William A. Greeson, Walter M. Greeson Co.; V-P, Elmer C. Gunther, E. C. Gunther Co.; Sec-Treas., Karl Boland, E. G. Patton Co., 1840 N. Michigan Ave., Saginaw.

Oklahoma City Food Brokers Assn., Oklahoma City, Okla. Pres., John E. Donaldson, Donaldson-Day Co.; V-P, Gordon Deets, Gordon Deets Co.; Sec-Treas., D. L. Cook, Love and Law, 723 North Hudson St.

Philadelphia Food Brokers Assn., Philadelphia, Pa. Pres., Milton Ford, Milton Ford Co., V-P, Clayton E. Daily, J. I. Daily Co.; Sec-Treas., E. Bryant Jefferson, Jr., Fritsch, Jefferson and Cope, 237 North 16th St.

Piedmont Food Brokers Assn., Greenville, S. C. Pres., A. M. Hayes, Jr., A. M. Hayes, Jr., Co.; V-P, J. W. Fuseler, Woodward W. Williams Co.; Sec. James F. Howard, Jr., Howard Brokerage Co., 618 E. Washington St.; Treas., Howard B. Bissell, Gentry-Bissell Co., Spartansburg, S. C.

Pittsburgh Food Brokers Assn., Pittsburgh, Pa. Pres., Robert P. Barnett, Polens-Barnett Co., 2987 West Liberty Ave.; V-P, John F. Ward, John F. Ward Co.; Sec-Treas., W. V. Lyons, W. V. Lyons Co.

Portland Food Brokers Club, Portland, Ore. Pres., Art Fewel, Fewel-Comer Co.; V-P, Jim Russell, Russell Brokerage Co.; Sec-Treas., Fred Boruck, Gillespie-Petersen, 505 S.E. Water Ave.

Raleigh Food Brokers Assn., Raleigh, N. C. Pres., Joe D. Edwards, Southgate Brokerage Co.; V-P, Richard St. John, House of Stokely; Sec-Treas., Donald H. King, W.M. Rogers and Co., Box 1116, Wilson, N. C.

Richmond Food Brokers' Club, Richmond, N. C. Pres., Horace Wright, Wright Brokerage, Inc.; V-P, W. C. Cunningham Brokerage Co., Inc.; Sec-Treas., W. W. Jackson, A. D. Jackson and Sons, 12-14 South 17th St.

Roanoke Food Brokers Assn., Roanoke, Va. Pres., C. C. Morgan, Roberts and Morgan; V-P, Ivan J. Terry, Terry Brokerage Co.; Sec., J. R. Saunders, Saunders Brokerage Co., 361 Reserve Ave., S.W.

Sacramento Valley Food Brokers Assn., Inc., Sacramento, Calif. Pres., John Dupell, Dupell Brokerage Co., 1329 18th St.; V-P, Thos. McMahon, McMahon Sales Co.; Sec., Ellis Daugherty, Daugherty Brokerage Co.

San Antonio Food Brokers Assn., San Antonio, Tex. Pres., Paul K. Peek, T. H. Conner and Associates; V-P, Herb Halstead, Halstead-Moss Co.; Sec-Treas., Homer Hill, Homer Hill Co., 615 Perez St.

San Diego Food Brokers Assn., San Diego, Calif. Pres., Robert W. Teed, Teed-Patrick Co., 1975 Fifth Ave.; V-P, Cliff Castor, San Diego Food Sales Co.; Sec-Treas., John B. Cussen, Cussen Brokerage Co.

The Associated Grocery Brokers of San Francisco, Calif. Pres., Willard G. Pittman, W. G. Pittman Co., 190 Greenwich St.; V-P, R. B. Madigan, Mailliard and Schmiedell; Treas., E. C. Lohmeyer, Parrott and Co.; Sec., A. D. Atterbury, Barth and Co.

Sioux Falls Brokers Assn., Sioux Falls, S. D. Pres., George Oosterhuis, Benedict and Oosterhuis; Sec., C. A. Malmberg, Brubaker Brokerage Co., P.O. Box 506.

St. Louis Food Brokers Assn., St. Louis, Mo. Pres., Frank A. Hart, Perry, Smith and Hart; V-P, I. D. Norman, Fischer Brokerage Co.; Sec., Don Scholl, Otto Scholl Sales Organization, 5117 Hampton Ave., Treas., James MacNaughtan, Jr., Mac Brokerage Co.

Syracuse Food Brokers Assn., Syracuse, N. Y. Pres., Dick Nielson, Hinman, Fitzpatrick Co.; V-P, Barry H. Fisher, Brooks Brokerage Co.; Sec., George H. Kenyon, Kenyon-Lattif, Inc., 526 West Manchester Road; Treas., Jim Evans, Evans Brokerage Co.

Tampa Food Brokers Assn., Tampa, Fla. Pres., Lee Wilson, Lee Wilson Co., Inc.; V-P, Cy Hart, Hart Co.; Sec-Treas., Walter J. Richards, C. C. Richardson Co., 305 Morgan St.

Seattle Food Brokers Club, Seattle, Wash. Pres., William J. Terry, Terry-Diemert Co., 618 Eastlake Ave.; Sec-Treas., Dick Damon, R. G. McCabe Co.

Tyler Food Brokers Assn., Tyler, Tex. Pres., E. V. Boteler, Boteler Brokerage Co.; Sec-Treas., Carl H. Greer, Greer Brokerage Co., P.O. Box 479.

Washington, D. C. Food Brokers Assn., Pres., Edward C. Harris, W. H. Bryan and Co.; 1st V-P, James E. O'Reilly, R.B.M. Sales Co.; 2nd V-P, A. Brady Phillips, Kluge and Co.; Treas., Nelson Barnett, W. Carroll Barnett and Sons; Sec., Edward J. Roche, A. R. McChesney Co., Inc., 7422 Waverly St., Bethesda, Md.

West Texas Food Brokers Assn., Lubbock, Tex. Pres., A. C. Arnett, Arnett Brokerage Co.; Sec., Garvin Cathey, Cathey Brokerage Co., 3302 Ave. A.

"15% sales increase due largely to Knox-designed jar," says president of leading gourmet foods firm

The handsome fluted glass packages shown above were designed by Knox Glass, Inc. in 1957 for a leading Eastern manufacturer of gourmet foods.*

According to the firm's president:

"Sales increased nearly 15% after changing to the fluted jar which Knox Glass designed exclusively for us.

"The eye-catching salesmanship of the jar, which has no label other than the closure, permits the purchaser a clear, clean view of our appetizing products, such as Potato Salad, Cole Slaw, Macaroni Salad and Vegetable Chow Chow. Knox's strong design and the excellent quality of the glass we buy from Knox, combine to make this a wonderful package.

"We've been a Knox customer for nearly seven years and buy almost exclusively from them. Special quality products such as ours demand high quality glass and exceptional service. This we get from Knox."

Find out more about how Knox can meet your glass container needs — contact Knox Glass, Inc., Knox, Pennsylvania.

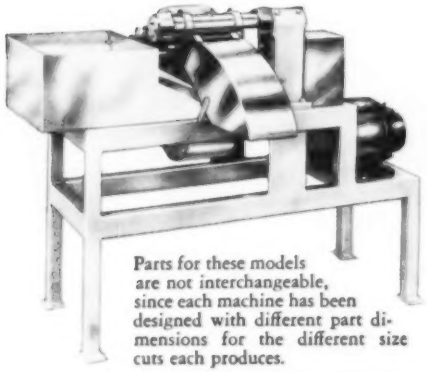
*Name available on request.

the new/**KNOX GLASS**

URSCHEL

Models F, G, H *and* GK ... *are* 4 *Separate Cutting Units!*

They all look alike...all operate alike



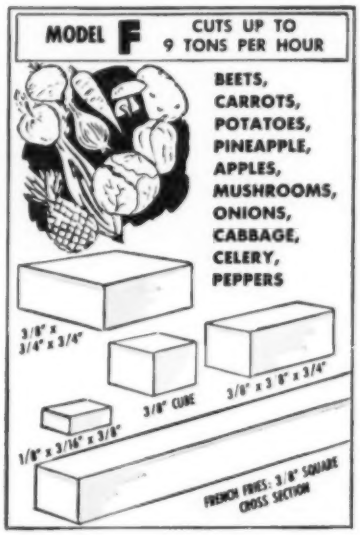
Parts for these models are not interchangeable, since each machine has been designed with different part dimensions for the different size cuts each produces.

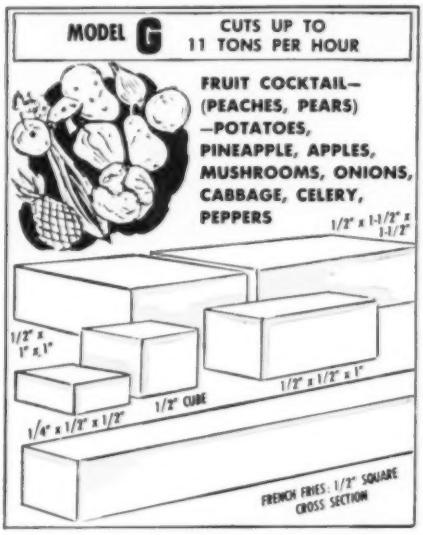
...but each produces a different range of cut sizes!

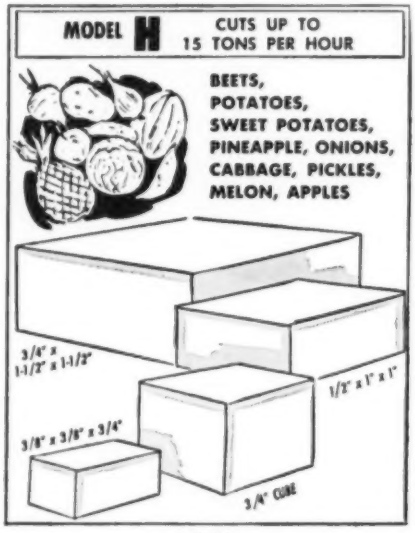
The product to be diced is fed first to the inside of a slicing shell, where it is then rotated by an impeller at high speed. Centrifugal force causes product to slide around the inside surface of slicing shell. As product approaches top of this shell it slides over an adjustable slicing gate which controls slice thickness. Slicing knife is at top of slicing shell. At the instant of slice, cross cut knives ride down, cutting slice crosswise into strips, or french fry cuts. These knives throw the product into the revolving circular knives that cut the strips into cubes.

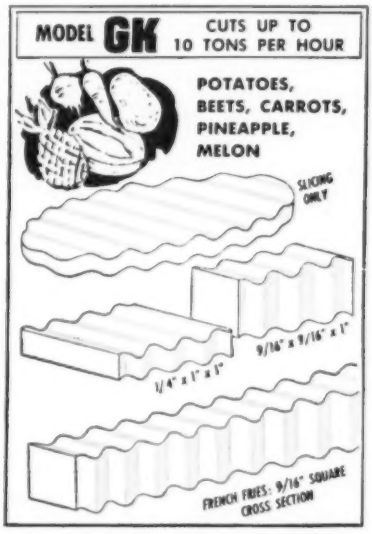
This new cutting principle has many advantages over previous methods. When slicing any product with a knife, the product tends to crack parallel with the knife's edge, particularly in brittle, root vegetables. Product cracking is overcome by **cutting parallel with the strains set up**, thus eliminating strains and the resultant cracking.

Product damage is eliminated by moving the product in a straight line from the time the first cut is made until the last cut is made, which reduces impact and crushing, and makes possible the high operating speed and quality of cut produced.


MODEL F
CUTS UP TO 9 TONS PER HOUR
BEETS, CARROTS, POTATOES, PINEAPPLE, APPLES, MUSHROOMS, ONIONS, CABBAGE, CELERY, PEPPERS
3/8" x 3/4" x 3/4"
3/8" CUBE
3/8" x 3/8" x 3/4"
1/8" x 3/16" x 3/8"
FRENCH FRIES: 3/8" SQUARE CROSS SECTION


MODEL G
CUTS UP TO 11 TONS PER HOUR
FRUIT COCKTAIL—(PEACHES, PEARS) —POTATOES, PINEAPPLE, APPLES, MUSHROOMS, ONIONS, CABBAGE, CELERY, PEPPERS
1/2" x 1-1/2" x 1-1/2"
1/2" x 1" x 1"
1/2" CUBE
1/2" x 1/2" x 1"
1/4" x 1/2" x 1/2"
FRENCH FRIES: 1/2" SQUARE CROSS SECTION


MODEL H
CUTS UP TO 15 TONS PER HOUR
BEETS, POTATOES, SWEET POTATOES, PINEAPPLE, ONIONS, CABBAGE, PICKLES, MELON, APPLES
3/4" x 1-1/2" x 1-1/2"
1/2" x 1" x 1"
3/8" x 3/8" x 3/4"
3/4" CUBE


MODEL GK
CUTS UP TO 10 TONS PER HOUR
POTATOES, BEETS, CARROTS, PINEAPPLE, MELON
SLICING ONLY
9/16" x 9/16" x 1"
1/4" x 1" x 1"
FRENCH FRIES: 9/16" SQUARE CROSS SECTION

PRECISION HIGH-SPEED FOOD CUTTING EQUIPMENT

URSCHEL LABORATORIES INC.
VALPARAISO, INDIANA

Designers and manufacturers of precision, high speed cutting equipment for food products

By Ray B. Wakefield
Pres., Institute of Food Technologists

Why Are We Going?

When the Institute of Food Technologists selected San Francisco as the site of its 20th annual meeting, it was evident as soon as the word got around that the name San Francisco has a definite magic.

People from "across the Rockies" sometimes overlook the fact that during the 20th century the West Coast region has contributed in major degree to American industrial history, particularly to the food industry history. Most of the 30-odd branches of the U. S. food industry are represented on the West Coast and are thriving.

Moreover, this region has windows that open on the new State of Hawaii and the Pacific Rim nations. These areas are also food growers and processors, and they are becoming of ever-increasing importance in the world. IFT is engaging this year in a mission to know and understand some of their problems, and to share in their solution.

These then are a few of the reasons why food scientists and technologists from all over the U.S.A. and from overseas are coming to the San Francisco meeting of the Institute of Food Technologists and why we have enlarged our horizons to include Hawaii. But perhaps we should consider a more basic question—what are the reasons for an Institute of Food Technologists in the first place?

Why an Institute?

Primarily, a professional society like IFT exists because no professional man can ever be completely satisfied with occasional personal meetings with his colleagues. A professional group, on the other hand, conducts a variety of enterprises that give the individual an up-to-date and thorough knowledge of what is new and what is outmoded.

The Institute of Food Technologists, for example, publishes two professional journals. You become aware of the trends in food research and technology through Institute contacts. IFT Committees have authored many excellent reports on special problems (food additives, food science education at the undergraduate level, a standard for pectin, sensory test methodology, etc.) And, as in San Francisco, it holds annual meetings that year by year cover the significant current advances in food research and technology. Often you can see the shape of things to come at an IFT annual meeting.

Where but in San Francisco will you obtain the most recent news on what is happening with regard to one of the most critical problems facing the food industry today—the Food Additives Amendment of 1958? It is necessary for us as food technologists, scientists, nutritionists, directors and executives of the food industry to meet the difficult problems created by the Amendment, *cooperatively,* and the IFT annual meeting provides an excellent vehicle for such cooperation.

Latest Processing Techniques

In San Francisco, also, we shall be enabled to take a look at the newer forms of preservation — antibiotics, radiation, etc. Great strides have been made in antibiotics research. Radiation preservation has suffered some shaking down in recent months. But as a subject for basic research it has been and will continue to be a productive study. It has certainly been a stimulus to a more intensive investigation into the protein, carbohydrate, and lipid components of foods. We have also learned much about the behavior of microorganisms under low and high radiation doses.

This aspect of food science, understanding the interactions of natural constituents and of intentionally or unintentionally added substances, takes on increasing importance with each passing year, and those who planned the technical program for the twentieth annual meeting have given basic research a "booster shot." But not forgotten in the programming are the reports of work on food engineering projects, on the sensory evaluation of foods, and on the technology of production in the meat, poultry, fish, dairy, cereal, fruit and vegetable, beverage and all other areas.

At the Pacific Rim Conferences in Hawaii, IFT is discharging another of its obligations to the food industries—to exchange information on growing, processing, and distributing tropical foods. In Hawaii we shall be seeing, not through a window but on the spot, the food potentialities of this segment of the globe and its problems.

What about the Future?

But what are our major responsibilities in insuring a bright future for the next generation of food scientists?

Certain things are expected of us. We must seek to correct previous limitations in the education of food technologists. This, we are in the process of doing. We must press ahead in fundamental research — stability-wise, nutrition-wise, and flavor-wise. We must seek for improved correlation of our technical findings with the requirements and operations of the food industries. We have already given technical help leading to greater efficiency in the processing of foods in all its forms—freezing, canning, curing, dehydrating, etc. We have added substantially to the convenience of preparing and serving foods, and we have influenced quality standards for foods.

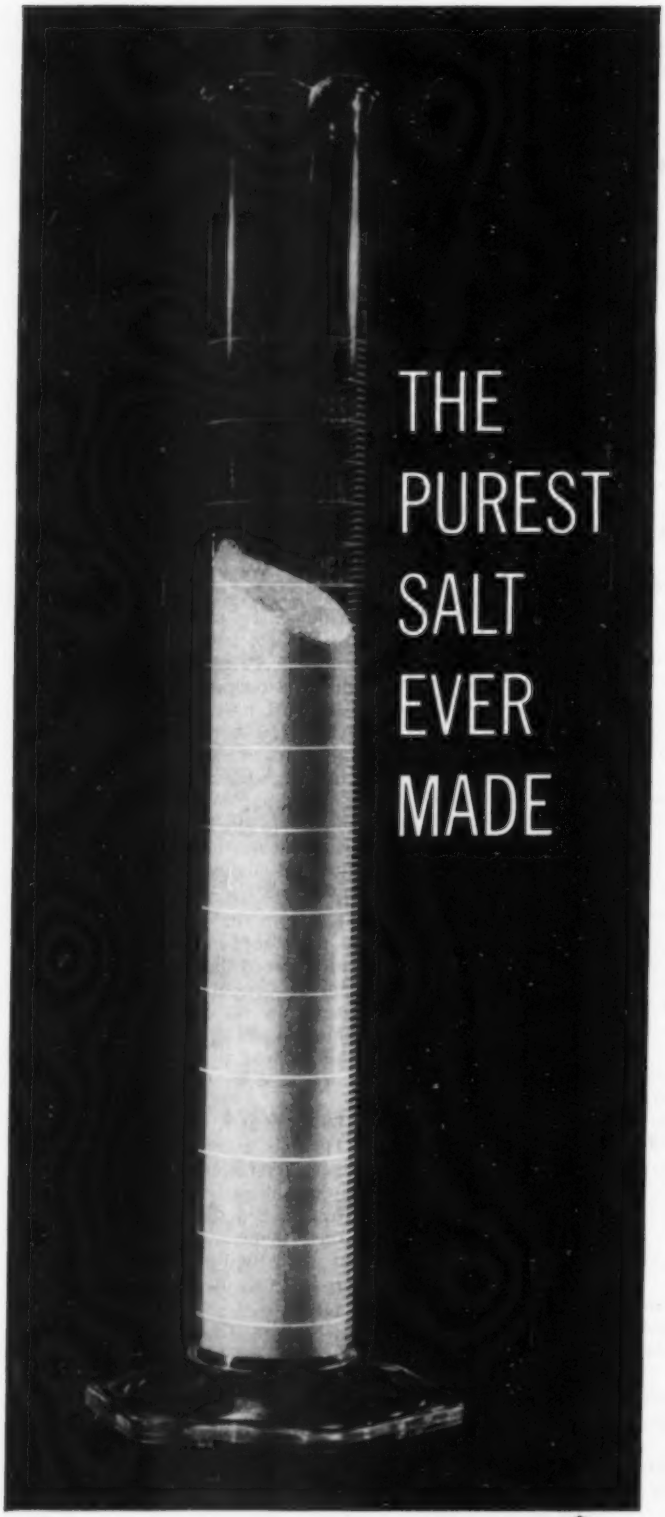
But our past and our present are tied in with the future of foods and the food economy. Much has been written about the race between food supply and population. It is imperative that we use all of our scientific and technological talents and knowledge to conserve food, to better its quality, and to distribute it more efficiently.

A Final Word

There is a tendency to accept our present food abundance as a permanent condition. Other fortunate nations have also had this feeling—but when floods, famine, or pestilence struck they were totally unprepared.

It is not likely that we shall ever be caught in such a predicament. But our American food problems from the crop stage on through to distribution are not all solved, and in the face of a growing population we cannot be indifferent to the race between food and people.

In addition, as the economy of underdeveloped nations turns from an agricultural to an industrial form, the demand for data on food and food processing is likely to be phenomenal. Within IFT, fortunately, there is the intellectual capacity, the energy, and the desire to fulfill both domestic and overseas needs.



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"A STEP AHEAD IN SALT TECHNOLOGY"

Task-Designed Crown Lug Caps keep your product safer . . . your customer happier. The live rubber ring makes the big difference, because live rubber is Task-Designed for the job. Live rubber rings can take the heat of sterilization, and seal tightly despite minor irregularities in the glass. Live rubber rings make it easier for the housewife to remove and replace the lug cap—as often as necessary.

Investigate these other advantages of live rubber; longer shelf life . . . less rejects because of ability to withstand stacking pressures. May we send you more details?

CROWN *for cans · crowns · closures · machinery*

CROWN CORK & SEAL CO., INC., 9300 Ashton Rd., Philadelphia 36, Pa.

List of Events

Fairmont Hotel, and Masonic Memorial Temple
San Francisco, California

FRIDAY, MAY 13, 1960
- Exec. Committee meeting, Crystal Rm., (mezz. floor) Fairmont, 9 a.m.

SATURDAY, MAY 14, 1960
- Registration, Mas. Temple, 10 a.m.-5 p.m.
- N/C Sec. committee meeting, Florentine Rm., Fairmont, 7 p.m.
- Editorial Pd. meeting, Fairmont, 7:30 p.m.

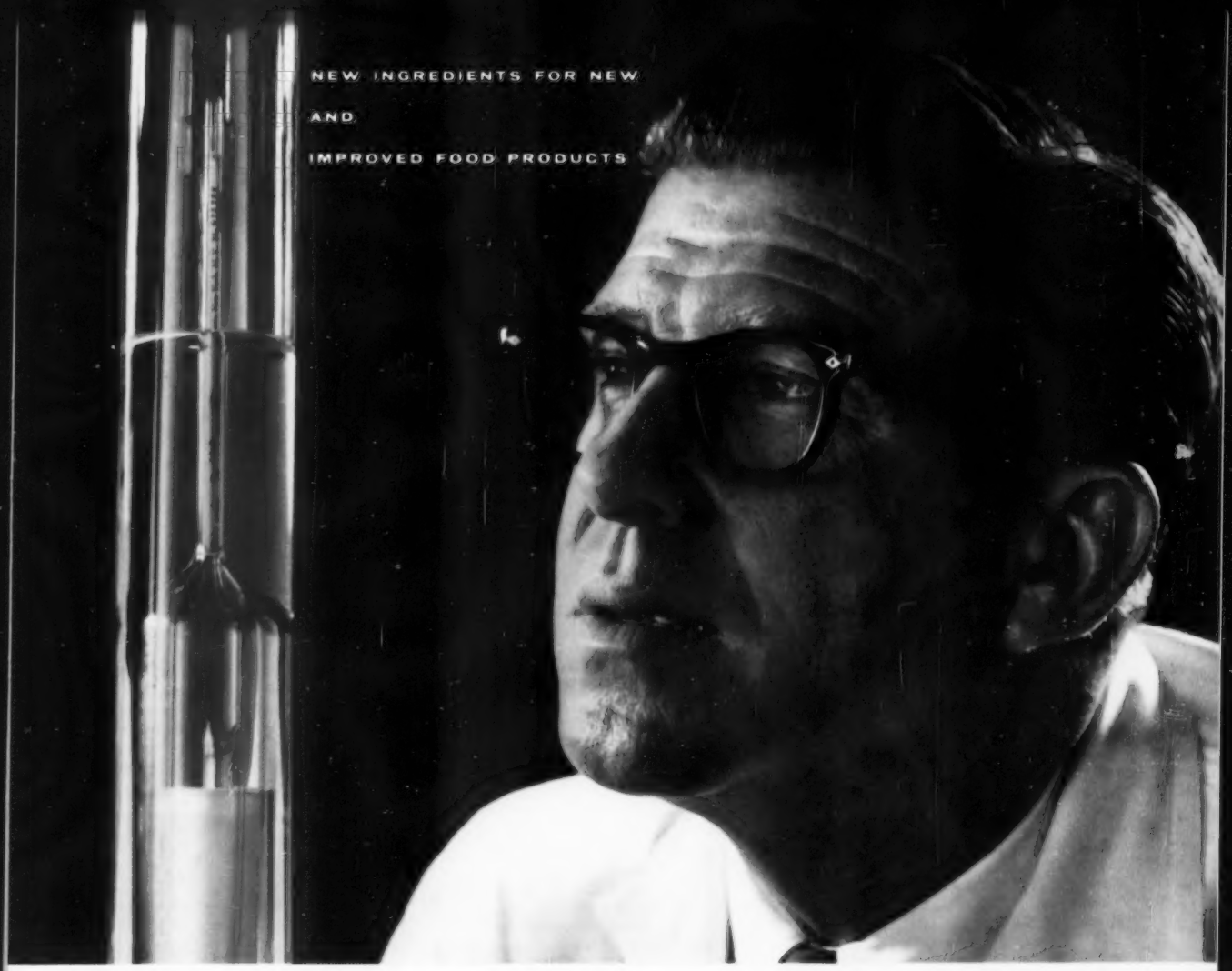
SUNDAY, MAY 15, 1960
- Registration & tickets, Mas. Temple, 9 a.m.-5 p.m.; also Fairmont lobby, 6-8:30 p.m.
- Natl. Council meeting, Nob Hill rm. Fairmont (Lobby) 10 a.m.
- Exhibits open, Exhibit Hall, Mas. Temple, 1-5 p.m.
- Ladies' Welcome Tea, California rm., Fairmont, 2:30-4:30 p.m.
- Social Hour, Gold Ball Rm., Fairmont, 6:30 p.m.

MONDAY, MAY 16, 1960
- Sec. Officers Breakfast, Gold Empire rm., Mark Hopkins Hotel, 7:30 a.m.
- Univ. of Ill. Breakfast, Mark Hopkins, 7:30 a.m.
- Univ. of Mass. Breakfast, Mark Hopkins, 7:30 a.m.
- Opening General Session, Auditorium, Mas. Temple, 8:45 a.m. (president's address and awards of scholarships and for industrial achievement).
- Ladies' Tour, Luncheon, Bay Cruise, leave in buses from front of Fairmont, 9 a.m.
- Registration & tickets, Mas. Temp., 9 a.m.-5 p.m.
- Tech. session—10:20 a.m.
  - Food Additives—auditorium, Mas. Temp.
  - Fruit Products—rooms 3-4, Mas. Temp.
  - Fish, Meat, Poultry—rooms 5-6
  - Microbiology & Public Health—rooms 7-8
- Exhibits open—11:00 a.m.-4:30 p.m.
- Mexico Section Lunch (all registrants) Papagayo rm., Fairmont, 12:15 p.m.
- Tech. session—1:40 p.m.
  - Convenience, Instant Foods—auditorium
  - General Research—rooms 3-4
  - Basic Res., Enzymes—rooms 5-6
  - Fish, Meat, Milk, Poultry—rooms 7-8
- Univ. of Calif. Dinner, Tonga rm., Fairmont, 7:30 p.m.
- Convenience Foods Packaging Seminar, Far East rm., Fairmont, 8 p.m.
- Flavor Nomenclature Committee, 20th Cent. Rm., Fairmont, 8 p.m.
- Citrus Prods. Committee, Frontier rm., Fairmont, 8 p.m.

TUESDAY, MAY 17, 1960
- Ore. State Coll. Breakfast, Mark Hopkins.
- Mass. Insti. Tech. Breakfast, Mark Hopkins.
- Univ. of Wis. Breakfast, Mark Hopkins.
- Univ. of Georgia Breakfast, Mark Hopkins.
- Tech. Session, 8:40 a.m., Mas. Temple
  - Food Engineering—auditorium
  - Fruit Products—rooms 3-4
  - Basic Res., Lipids—rooms 5-6
  - Fish, Meat, Poultry—rooms 7-8
- Exhibits open, 11 a.m.-4:30 p.m.
- Registration, tickets, Mas. Temple, 9 a.m.-5 p.m.
- Ladies' breakfast, shop tour, Starlite Roof, Sir Francis Drake Hotel, 9:15 a.m.
- Univ. Minn. lunch, Mark Hopkins.
- Babcock-Hart Award Address, Auditorium, Mas. Temple, 1:30 p.m.
- Tech. Session, 2:20 p.m., Mas. Temple
  - Food Engineering—auditorium
  - Citrus Products—rooms 3-4
  - Basic Research, Proteins—rooms 7-8
  - Fish, Meat, Poultry—rooms 5-6
- Awards Banquet, Gold Ballroom, Fairmont, 7 p.m.

WEDNESDAY, MAY 18, 1960
- Phi Tau Sigma Breakfast, Mark Hopkins.
- Canadian Breakfast, Mark Hopkins.
- Technical Session, 8:40 a.m., Mas. Temp.
  - Quality control/instrumentation—Auditorium
  - Vegetable Products—rooms 3-4
  - Fish, Meat, Poultry—rooms 5-6
  - Microbiology, Public Health, Radiation Preservation—rooms 7-8
- Registration, tickets, Mas. Temp., 9 a.m.-5 p.m.
- Ladies' Tour — Redwoods, Lunch, Shops — Buses leave front of Fairmont, 9 a.m.
- Exhibits (final day, 11 a.m.-4 p.m.
- Appert Award Address, Auditorium, 1:30 p.m.
- Business Meeting, Drawing, Auditorium, 2:10 p.m.
- Tech. Session, 2:40 p.m., Mas. Temple.
  - Quality Control—Auditorium
  - Flavor Res. & Chemistry—rooms 3-4
  - Fish, Meat, Poultry—rooms 5-6
  - Microbiology, public health—rooms 7-8
- Tech. Session, 4:20 p.m., Mas. Temple
  - Vegetable Products—Auditorium

THURSDAY, MAY 19, 1960
- Field Trips—All buses leave from Fairmont Hotel.
  - Napa Valley Wineries—8:30 a.m. to 4:30 p.m.
  - University of California, Davis—8:30 to 4:30.
  - San Jose Trip (Tri-Valley cannery, Sunsweet dried fruits, Mission)—8:30 to 4:30.
  - United Air Lines Commissary, Heublein cannery/-bottling plant. Stanford Res. Institute (lunch compliments of Heublein)—8:30-4:30.
  - Ac'cent International/Morton Salt Co. (bus and lunch complimentary)—8:30-4:30.
  - Filice & Perrelli cannery, USDA Western Res. Lab. (lunch complimentary)—9 a.m.-3 p.m.



FLO-SWEET CANE/CSU . . . comogenized too!

Far more than just mixtures of "cane and corn," Flo-Sweet Cane/CSU blends comprise a whole new family of top quality sweetening agents. Comogenized for utmost uniformity, they open up vast new fields for food manufacturers who want the combined characteristics of cane and corn syrups, yet insist on the standards of quality for which Flo-Sweet liquid sugars have become famous.

Available with either sucrose or invert base, Flo-Sweet Cane/CSU comogenized blends are just a few of the numerous new Flo-Sweet sugars developed to give you a *combination* of characteristics never before available. To find out how these versatile sweetening agents can best fit into your own new food products development program, consult your Flo-Sweet Engineer or write for the brochure "New Ingredients for New and Improved Food Products." It tells all about four new Flo-Sweet liquid sugars!

SUCROSE OR INVERT PLUS "GLOBE" CORN SYRUP

Flo-Sweet Cane/CSU, refinery comogenized, is available in these standard blends:

Sucrose	*CSU*
90%	10%
85	15
80	20
75	25
Invert	*CSU*
75	25

REFINED SYRUPS & SUGARS, INC.

YONKERS, NEW YORK

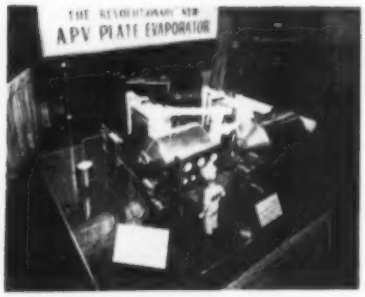
SERVING INDUSTRIAL SUGAR USERS EXCLUSIVELY
FROM YONKERS, ALLENTOWN, DETROIT, TOLEDO

FLO-SWEET®

FIRST IN LIQUID SUGAR

Exhibitors Listing: Products and Personnel

Show is open Sunday through Wednesday



NEW PLATE evaporator of A.P.V.

Booth No.

A.P.V. Company, Inc. 71
Exhibit: New—Plate-type evaporator designed for use in place of the calandria-type evaporator; retains quality attributes by rapid exposure to heat.
Astell Roll Tube equipment for easier bacteria counts, replacing petrie dishes.

Abbott Laboratories 17
Exhibit: Sucaryl in low calorie foods and beverages.
Personnel: Dr. Karl Beck, Norman Leffler, Kent Penwell.

Agtron Company 46
Exhibit: A simplified color instrument, Agtron F, for use in quality control.
Personnel: Robert L. Emery, Fred Horne, D. M. Emery.

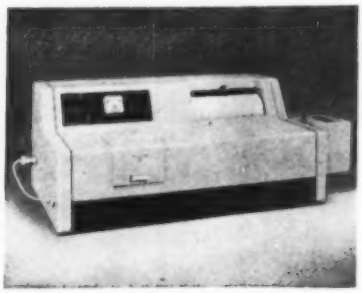
Air Reduction Co., Inc., Customer Service Laboratory 8
Exhibit: various types of food products in pressurized containers and propelling gasses nitrogen, nitrous oxide and carbon dioxide (Airco, Ohio, Pureco).
Personnel: J. S. Hinn, R. A. Pasqualone.

American Can Co. .....30 & 31

American Optical Co., Instrument Div. 88
Exhibit: New—Goldberg process refractometer for in-line reading of Brix.
Other scientific instruments, including microscopes, microscope illuminators, refractometers.
Personnel: R. G. Betka, T. J. Kirk.

American Sterilizer Co. .....39 & 40
Exhibit: New — AMSCO - Del - Vac freeze-dryer which provides direct determination of production process cycles for the preservation of labile substances.
Biogen, continuous culture apparatus; Dynaclave sterilizer; electric still; Lethal gas sterilizer; spondex control strips for sterilization.

Atlas Powder Co. 65
Exhibit: Sorbo and emulsifiers, including Atmul 500, a mono- and di-glyceride emulsifier for bread.
Personnel: Carl Pratt, William Knightly, J. T. Zolper, George Cripps, C. E. McLaughlin.



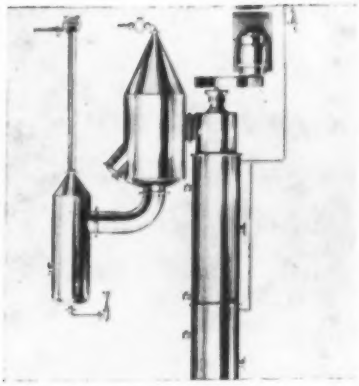
SPECTRONIC 505 by Bausch & Lomb

Bausch & Lomb Optical Co. ....27 & 28
Exhibit: New—Spectronic 505, a double beam ratio recording ultra-violet visible Spectrophotometer with range 200 mu to 700 mu, with accessories.
Personnel: James Starks, Everett Bissell, D. Murray, J. Quartz.

Beatrice Foods Co. 70
Exhibit: New—two powdered items, one containing Blue Cheese solids, the other, banana solids.
Powdered specialties under the Beatrmeme label, including high, fat, free-flowing powers of various types.
Personnel: Carl Obenauf, Dr. Peter Noznick, Charles Tatter, Alvin Alton.

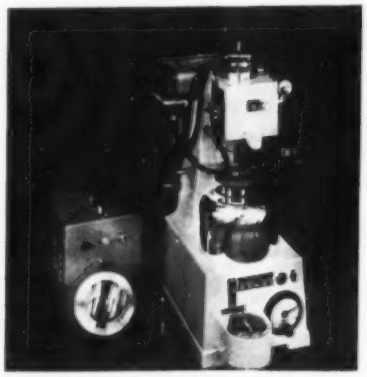
SPECTROPHOTOMETER—Beckman

Beckman Instruments, Inc. 36
Exhibit: New—a new double beam, ultraviolet Spectrophotometer, Beckman DB. Range is from 220 mu to 770 mu. Direct-reading instrument can operate manually or with recorder.
Spectrophotometers, recording potentiometers, gas chromatograph, pH meters.
Personnel: Jack Aplin, Paul E. Paules.



THIN FILM evaporator—Buffalovac

Blaw-Knox Company 105
Exhibit: New—an evaporator, Agitated Thin Film, Roto-Vak, developed for concentrating a wide range of viscous, heat-sensitive materials to densities not possible in conventional tubular evaporators.
Personnel: R. H. Lewis, J. G. Moore, W. D. Kohlins.



VISCOSIMETER by Brabender

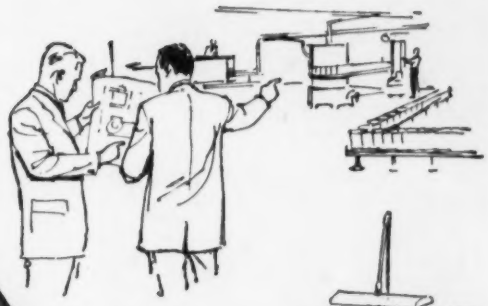
Brabender Corp. 99
Exhibit: Amylograph - viscograph recording viscosimeter, semi - automatic moisture tester, farinograph.
Personnel: Arthur Hartkopf, Anneliese Hartkopf.

C. W. Brabender Instruments, Inc. 77 & 78
Exhibit: New—a recording viscosimeter for laboratory tests of food materials.
Plastomograph, Visco/amylograph, pilot mill, moisture tester.
Personnel: Walter T. Blake, August O. Schmitz.

Calgon Company, Div. of Hagan Chemicals and Controls, Inc. 53
Exhibit: New—Curafos Formula 11-2 for improved solubility and stability in pumping pickle.
Compounds to enhance the red pig-

(IFT SECTION . . . Page 8)

FROM PLANNING... TO CANNING!



THE FINEST CONTAINERS AND SERVICE COME FROM CANCO!

Canco service starts long before production. Canco operates the world's largest food research laboratory and has unmatched experience in canned food product formulation. Canco agronomists can tell you what grows best . . . where. Technical Service people are ready to act as your consultants on the proper use and formulation of raw materials, canning methods and equipment, quality control, or any problem relating to the canning procedure.

Canco's can-handling and plant layout engineers are available for assistance. They are experts in increasing speed and efficiency within your plants.

A staff of professional home economists is available to help you develop new products, evaluate proposed or existing products and to develop recipes.

The aim of Canco service is to produce containers that promise you better packaging, fewer production stoppages, lower packing costs. That means a better product . . . *more profits for you!*

Delegates to the I.F.T. Convention are cordially invited to visit

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DOuglas 2-4730 for arrangements

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For more than 70 years, the food industries around the world have depended upon FMC for two types of "products":

Equipment – that includes a wide variety of food preparation and processing machines and equipment . . . today's performance leaders.

Ideas – that are constantly at work – through a number of specialized services – to serve the food industries and to create even better machines and equipment for tomorrow and the years to come.

If you have a problem involving equipment or services or both, this FMC background of experience can be helpful. A card or call will put all this at your disposal, today.

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Canning Machinery Division

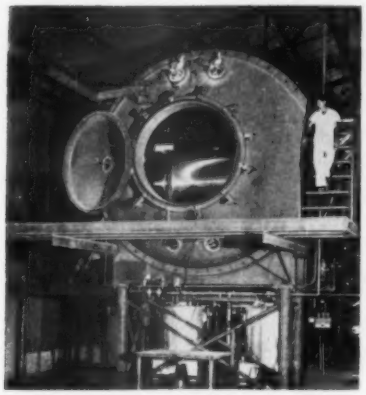
General Sales Offices:

WESTERN: SAN JOSE, CALIF. • EASTERN: HOOPESTON, ILL.

ment in canned beets, to create a more stable cured color in cured meats, to blanch peas and beans.

Personnel: C. C. Keck; G. O. Hall, Dr. J. H. Mahon.

Central Soya Co., Inc. 37



VACUUM dehydrator—Chain Belt

Chain Belt Co. 51

Exhibit: improvements have been made in the continuous vacuum dehydrator. Instant solubility of citrus and coffee crystals will be demonstrated.

Personnel: Weld Conley, Fred Fixari, Jerry Bard.

Cherry-Burrell Corp. 106

Clinton Corn Processing Co. 75

Exhibit: Dextrose, dried corn syrup, corn starch, lactic acid, corn oil, corn syrup.

Personnel: E. K. Wardrip, J. C. Sailor, D. D. Downing, R. H. Fletcher.

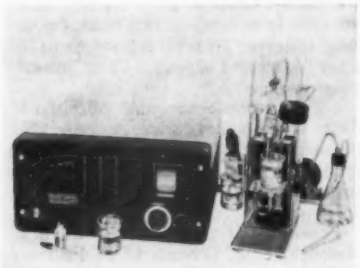
Continental Can Company, Inc. ..48 & 49

Exhibit: The story of the past, present and future of the canning industry will be shown in display.

Corn Industries Research Foundation, Inc. .....44 & 45

Exhibit: Products of the corn wet milling industry.

Personnel: Leah Biller, William J. Hoover, Robert D. McMillen.

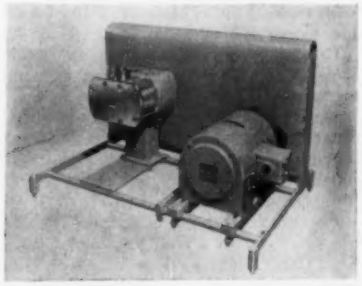


PARTICLE COUNTER by Coulter

Coulter Industrial Sales Co. 33

Exhibit: New—a principle for particle sizing and counting, in which the particles are suspended in electrolyet and drawn through a small aperture having immersed electrodes on either side. Particles are thus converted to voltage pulses of proportionate size at rates up to thousands per second.

Personnel: Hugh Rodman, John Coleman, Harvey Powell.



ROTARY PUMP—Creamery Package

Creamery Package Mfg. Company ..95

Exhibit: New applications for CP stainless rotary pumps. Features of CP plate heat exchanger and the CP swept surface tubular heat exchanger.

Personnel: G. N. Haxton, John Hayes, Bob Kaufman, H. L. Mitten, M. P. Monson and C. E. Schick.

Crest Foods Co., Inc. 32

Exhibit: New—a complete series of whole milk proteins, demonstrating exceptional flavor characteristics.

Concentrated milk proteins, lactalbumin and whole milk proteins for nutritional application, special types for water binding, foam stabilization, buffering, etc.

Personnel: Dr. Morrison Loewenstein, Jay Meiners.

Crown Cork & Seal Co., Inc......67

BRINEMASTER—Diamond Crystal

Diamond Crystal Salt Co. 61

Exhibit: CMF type salt, high grade Alberger flake salt, salt with anti-oxidant, salt with MSG, various types of prepared salts, baker's enrichment salt, pretzel salt, softener salt nuggets.

Personnel: Whittaker Lonsdale, Conrad Schornstheimer.

Dodge & Olcott, Inc. .....73 & 74

Exhibit: New—a line of premium quality seasonings, dry spice flavors based on spray-dried oils and oleoresins, called Spisoseal Seasonings. Precisely formulated, long shelf life, stable, Spisoseals may be custom formulated to replace any blend of spice flavors.

Personnel: Jules Bauer, William Ammon, John Bouton, George Collins, John Brickner, Thomas Callahan.

Dow Chemical Co. .....34 & 35

Eastman Chemical Products, Inc. 20

Exhibit: Tenox, Eastman food-grade antioxidants.

Personnel: Dr. B. N. Stuckey, E. R. Sherwin.

EPIC, Inc. 47

Exhibit: Pocket refractometers, Abbe refractometers, pulfrich refractometers, immersion refractometers, pipeline and process refractometers, laboratory type polarimeters, table type polarimeters, saccharimeter.

Personnel: Peter Letica.

Evans Research and Development...66

Exhibit: A flavor enzyme process to enhance natural fresh flavor has been patented. New techniques based on new analytical tools of research have been developed for product control.

Personnel: Dr. Eric J. Hewitt, Dr. William E. Holland, Dr. Kurt S. Konigsbacher, Dr. Winifred M. Cort.

Felton Chemical Co., Inc. 89

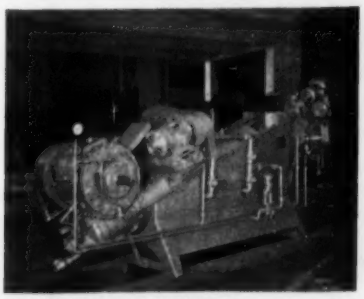
Exhibit: New—an imitation cream flavor, Cremal #2396, reproduces the character and aroma of sweet cream.

Personnel: Robert E. Felton, Ira B. Kapp, Philip A. Werniske, E. L. Petersen.

Florasynth Laboratories, Inc. ....24 & 25

Exhibit: New—a sweet tasting Hickory smoke yeast flavor of natural origin, stable to high processing temperatures and with an excellent shelf life.

Personnel: Jack Friedman, David Lakritz, John Miller, Harold Johnson, Frank Micek, Walter Morland, Elliott Freberg, Jim Shay, Ed Gerkhe.



STEAMER by Food Machinery

Food Machinery and Chemical Corp., Canning Machinery Div. 14

Exhibit: New—FMC High Pressure Steamer incorporating Model 120-B Transol Valves operating at 120 PSIG at 350°F. with steam in cooking and peeling applications.

Personnel: C. K. Wilson, P. C. Wilbur, F. Hickey, H. W. Adams, E. S. Yawger, N. Pappas, K. Hirahara, R. G. Beverly, R. T. Ready, P. Lampman.

IFT ANNUAL MEETING

Food Materials Corp. 80

Fries and Fries Inc. .....84 & 85

Exhibit: Flavors and extracts—liquids, powders and spray dried flavor concentrates.

Personnel: Robert Fries, Jr., Mr. and Mrs. Merrill Gross, Mr. and Mrs. Robert F. Murphy, Mr. and Mrs. Ralph W. Smart.

Fritzsche Brothers, Inc. .....9 & 10

Exhibit: Latest development in flavors, spice extractions, and spray-dried, locked-in flavors.

Personnel: Edward E. Langenau, Robert Hughes, Stanley Crouch, Harold Janovsky, Robert Krone, Parker Schwamb, R. W. Wilmer, M. J. (Pete) Niles.

Givaudan Flavors Inc. 50

Exhibit: Imitation cheese flavors and imitation vegetable juice flavors and other flavors for the food industry.

Personnel: Hans P. Kessler, Earl J. Merwin, Jerry DiGenova, Ben S. Cottle, Sr.

Griffith Laboratories, Inc. 56

LABORATORY steam cooker—Groen

Groen Mfg. Company 87

Exhibit: A stainless steel steam jacketed pressure cooker for laboratory or pilot plant; tilting kettle.

Personnel: F. H. Groen, Jr., F. J. Corcoran.

Gunther Products, Inc. 90

Exhibit: Vegetable proteins.

Personnel: J. K. Gunther, Jack Tucker, Melvin Vincent.

Hercules Powder Company 19

Exhibit: Hydrolyzed Vegetable Protein, Vicrum Starbake and Starvis (edible starches), MSG and Cellulose Gum.

Personnel: R. S. Shumard, J. G. Jarrell, J. M. Graham, W. G. Mumford.

Hoffmann-La Roche Inc. 18

Exhibit: Beta carotene (Nature's yellow) the safe yellow-orange color that nourishes.

Personnel: G. K. Parman, R. C. Christiansen, A. J. King, G. J. Salinard, J. H. Stuart.

International Flavors and Fragrances, Inc., Polak & Schwarz, van Ameringen-Haebler .....15 & 16

Exhibit: Improved true fruit flavors with other natural flavors. Pure vanilla flavors and imitation vanilla flavors.

Personnel: H. van Mameren, Dr. McGlumphy, Paul Orsay, Charles Grim, Dr. Wellner, J. Ungerland, C. T. Brown, K. Rickard, R. Hale.

Kelco Company .....57 & 58

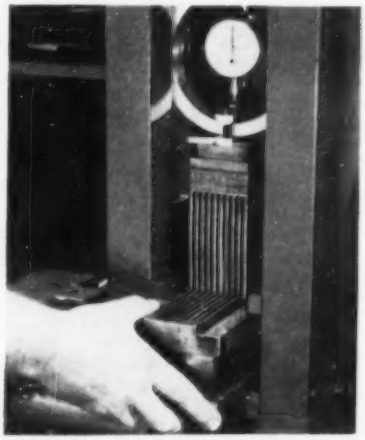
H. Kohnstamm & Co., Inc. 22

Kraft Foods, Div. of National Dairy Products Corp. .....91 & 92

Exhibit: New—Kraystay, an Irish Moss extract and Kralex, a replacement for non-fat milk.

Krafen, an edible dry sweet whey, instant milk powder, gelatin, natural cheese, instant onion, salad dressings, soup bases, Cheeztang, Rokatang, shortening, graded cheese.

Personnel: Casey C. Chesney, A. E. Flaherty, Robert Agromonte, Jim Goodwin, Dan Stilwell.



SHEAR PRESS—L.E.E.

L. E. E. Incorporated 94

Exhibit: Improved SP-12 L.E.E.-Kramer Shear Press Qualitator, an instrument which gives calibrated precise and correlative objective measurements of textural-rheological properties.

Personnel: Jack Orchard, Don Rosenberry, Paul Hudleson, Dr. Amihud Kramer, Dr. Bernard Twigg.

Arthur D. Little, Inc. .....5 & 6

Exhibit: The booth will center on services in research, engineering, and management—services which relate to product and process development and range from concept for a new product through the commercial development.

Personnel: Robert L. Swaine, John H. Moriarty, Irving T. McDowell, Victoria Mularski, Loren B. Sjorstrom, Dr. Edward E. Anderson, John B. Donaldson.

T. R. Mantes Company 13

Exhibit: Exact Weight prepack, drain weight, quantity and statistical control scales, Mettler balances, Datamatic weight calculator for statistical and quality control.

Personnel: T. R. Mantes, H. E. 'Stoney' Kragh, Jr., Dave Oille, Harry Ingebrigtsen, Fred Stoltz.

Manton-Gaulin Manufacturing Co., Inc. 97

Exhibit: Twin Lobe pump, a sanitary pump, completely redesigned. Laboratory homogenizer now made of 316 SS in all wettable parts—a research tool for homogenization. Colloid Mill.

Personnel: George Eldridge, Joseph Dwyer, James Gossett. From E. M. Underwood and Company, E. M. Underwood, R. F. Jessup, J. N. Hinckley.

Marine Colloids, Inc. 96

Merck & Co., Inc. .....11 & 12

Miles Chemical Company, Div. Miles Laboratories, Inc. 7

Exhibit: Citric acid, enzymes, isoascorbic acid.

Personnel: W. J. Ferracone, A. C. Lauria, H. E. Duncan, J. A. Brudnak, A. A. Blaze, C. E. Land, R. R. Barton.

Mojonnier Bros. Co. 102

Exhibit: Latest designs of steam and Lo-Temp evaporators and fruit spread cookers.

Personnel: Luke Noland, Julius Mojonnier, George Armerding, Lee Bickenbach, Wally Bateman, Herbert Liedell.

Monsanto Chemical Co. 81

Exhibit: Pryan, a free-flowing leavening agent.

Personnel: Dick Haynes, Dave Morris.

Morehouse-Cowles, Inc. .....54 & 55

Morton Salt Co. 23

The Nestle Company, Inc. 2

Exhibit: Maggi Bulk Hydrolysates, hydrolyzed plant proteins in liquid, powder and paste forms, impart well-balanced meat flavors to finished products.

Chocolate coating and chocolate liquors, natural and dutch process cocoa powders.

Personnel: T. F. Corrigan, H. B. Rogers, A. P. Salerno, J. Meagher, H. Pease, John Conley.

Pacific Vegetable Oil Corp. 98

Exhibit: Salad and cooking oil. Safflower mayonnaise, salad dressings, margarine, frozen desserts, baked goods, potato chip and other deep frying applications.

Personnel: R. M. Garoutte, R. W. Hammond, R. H. Purdy, J. A. Kneeland.

Penick and Ford, Ltd., Inc. 52

Pepsi-Cola Co. 86

Chas. Pfizer & Co., Inc. .....59 & 60

Exhibit: Glucono-Delat-Lactone provides many possibilities for bakery products, may be used to replace yeast or other leavening agents. For "instant" baker products.

L-Lysine, Sorbistat and Sorbistat-K, Citric acid, Sodium citrate, Ascorbic acid, Erythorbic acid, Calcium and Sodium cyclamate, Sodium benzoate, Tartaric acid, Vitamin A, B-Complex vitamins, Sol-U-Pak.

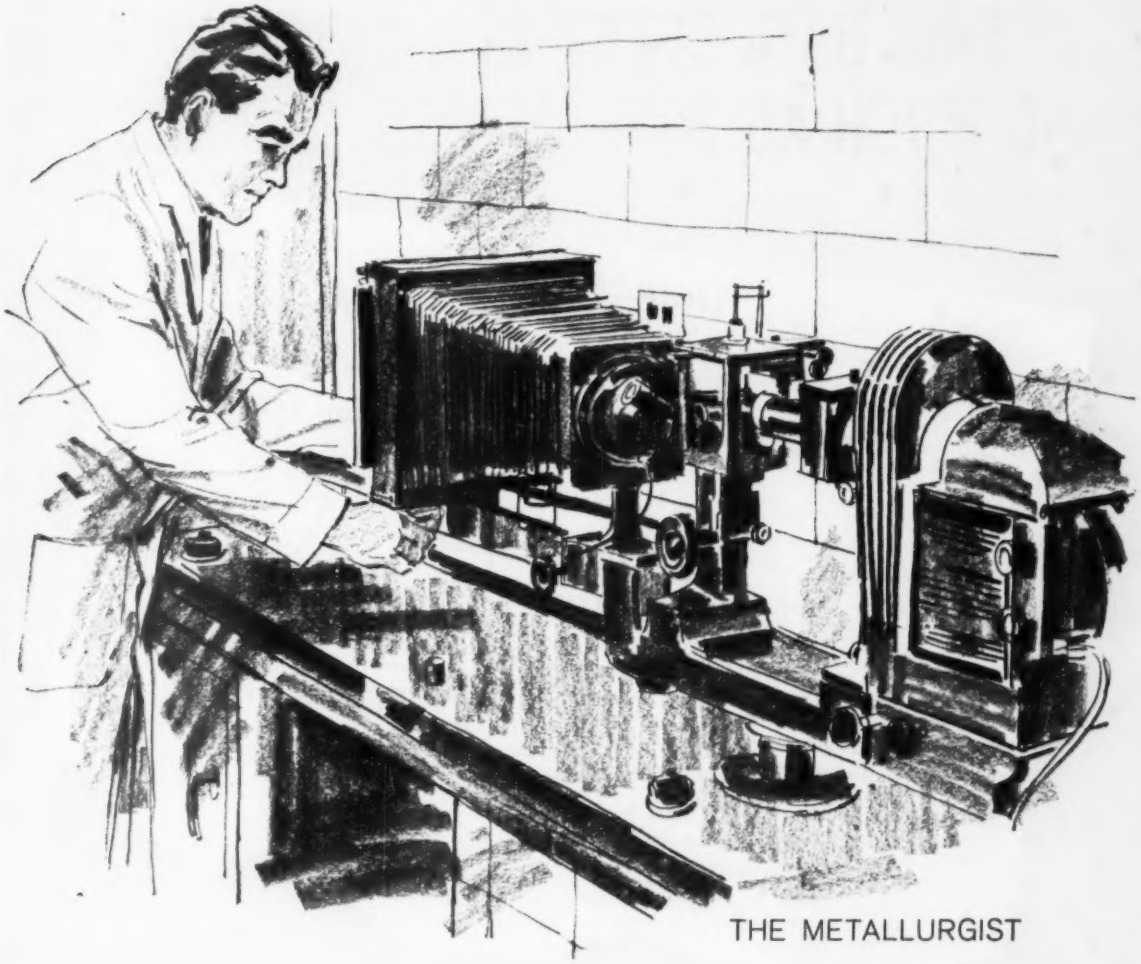
Personnel: J. R. Post, E. E. Macdonough, E. F. O'Neill, C. F. Feldberg, R. L. Groben, W. K. Thayer, M. F. Hill, P. J. Gill, R. W. Johnson, R. J. McGrath.

Polak's Frutal Works, Inc. 4

Exhibit: Flavoring materials.

Personnel: A. H. Michaels, E. Vles, M. Preiser, D. Moncino, K. Freiberg.

CONTINENTAL SCIENTISTS WHO WORK FOR YOU



THE METALLURGIST

When packaging developments need metal know-how

Continental customers get them first

Technological progress in metals developments is making selection of the right material increasingly difficult. To specify the type of metal best suited to a product and its container—or for a machine component—Continental's Metal Division Research and Development Center relies on the metallurgist's knowledge of the composition, structure and properties of metals and their alloys.

Important considerations in the metallurgist's selection are the behavior of the metal under stress during high-speed slitting, body-forming and can-closing.

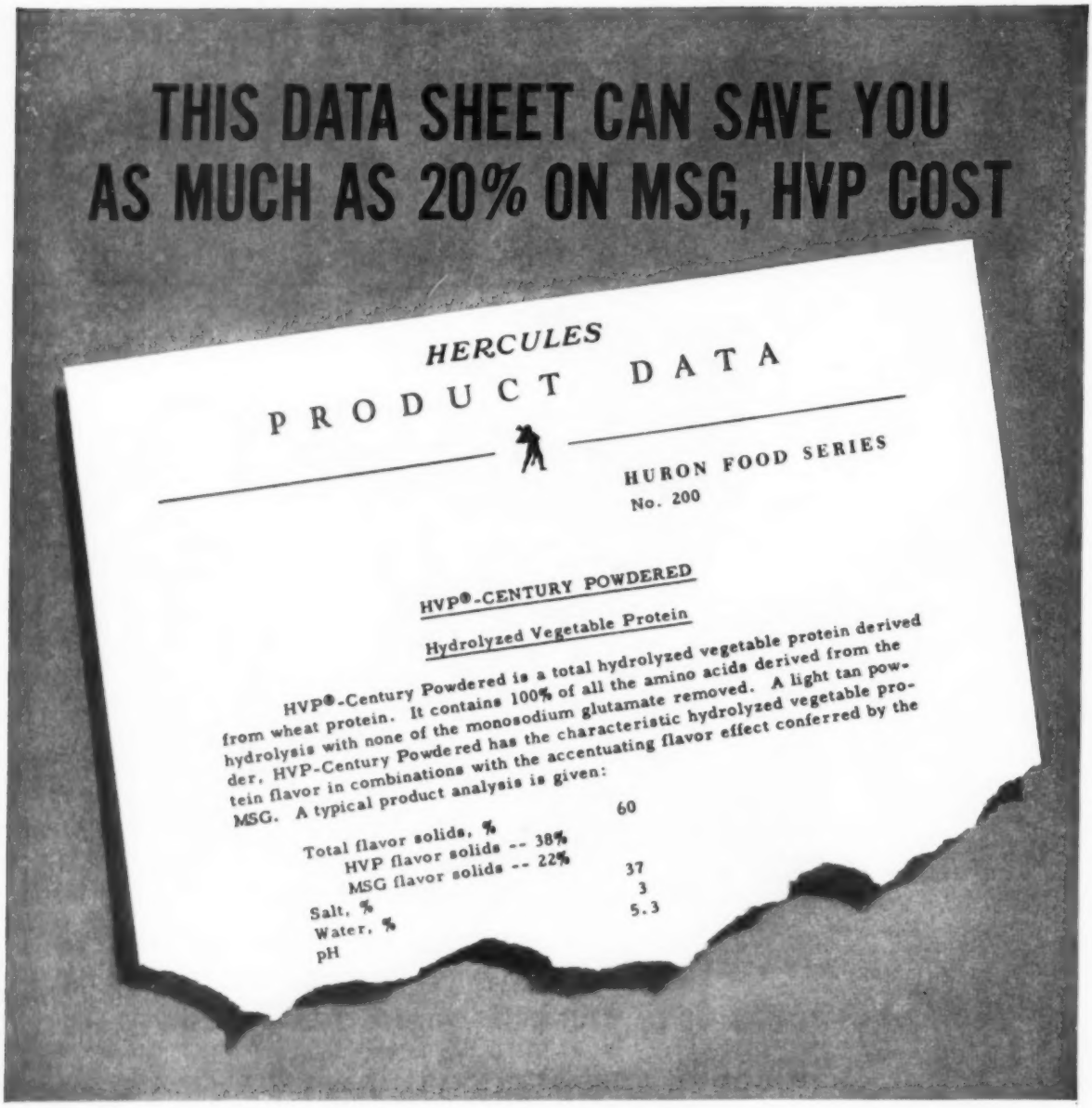
He works closely with the mechanical engineer and machine designer in the practical use of newly developed materials to improve both can-making and can-closing equipment. He works with the packaging engineer in utilizing new materials to improve container performance. The metallurgist is also the authority on metal joining through use of solder, adhesives or welding techniques.

As a Continental customer, you can be sure that the best in scientific manpower, facilities and equipment are always working in your behalf.

CONTINENTAL CAN COMPANY

Eastern Division: 100 E. 42nd St., New York 17
Central Division: 135 S. LaSalle St., Chicago 3
Pacific Division: Russ Building, San Francisco 4
Canadian Division: 790 Bay Street, Toronto 1
Cuban Office: Apartado 1709, Havana, Cuba

THIS DATA SHEET CAN SAVE YOU AS MUCH AS 20% ON MSG, HVP COST


HERCULES
PRODUCT DATA
HURON FOOD SERIES
No. 200
HVP®-CENTURY POWDERED
Hydrolyzed Vegetable Protein
HVP®-Century Powdered is a total hydrolyzed vegetable protein derived from wheat protein. It contains 100% of all the amino acids derived from the hydrolysis with none of the monosodium glutamate removed. A light tan powder, HVP-Century Powdered has the characteristic hydrolyzed vegetable protein flavor in combinations with the accentuating flavor effect conferred by the MSG. A typical product analysis is given:
Total flavor solids, % 60
HVP flavor solids -- 38%
MSG flavor solids -- 22%
Salt, % 37
Water, % 3
pH 5.3

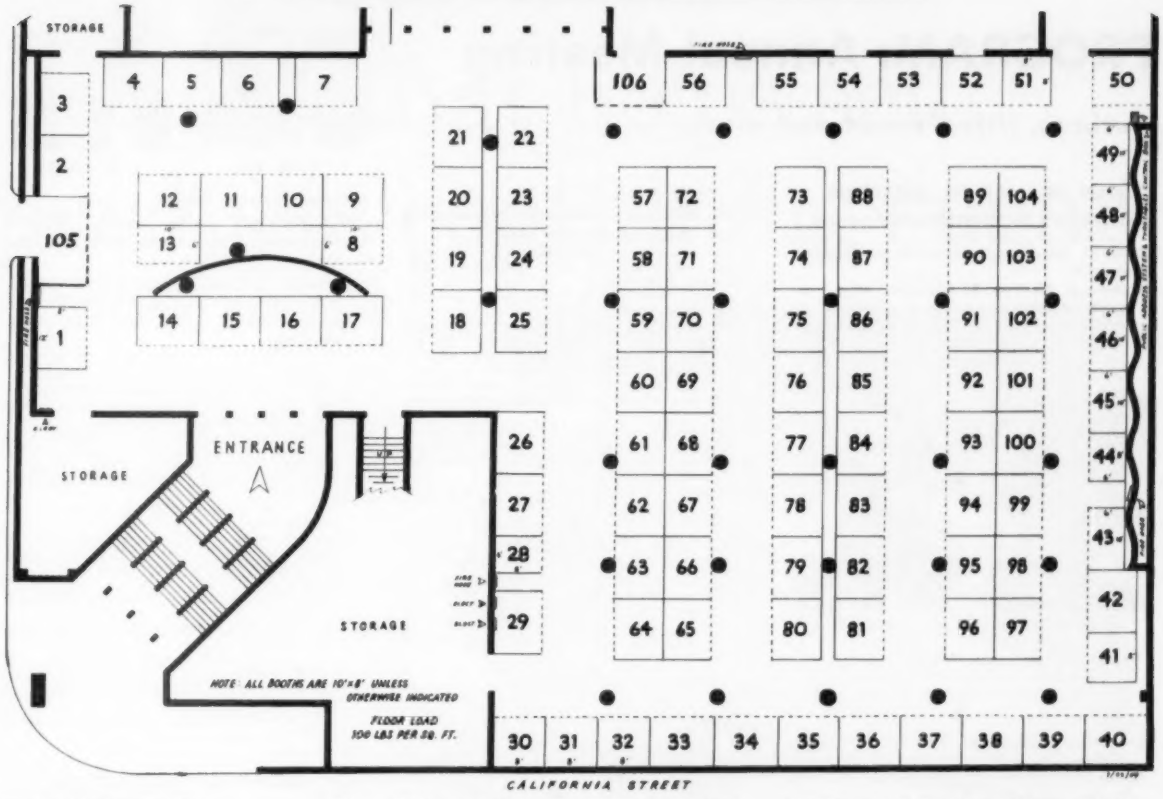
Now—besides its full line of HVP powder and liquids as well as MSG—Hercules offers HVP®-Century powdered, a total hydrolyzed vegetable protein derived from wheat protein. Containing 100% of all the amino acids derived from the hydrolysis with none of the monosodium glutamate removed, this new product offers the possibility of cost savings and processing advantages wherever the flavor of well-browned beef is desired.

This new four-page data sheet provides complete specifications on HVP-Century as well as information on how to compute cost savings and convert formulations. We'll be glad to send you a copy along with a sample of HVP-Century. For information, write to

Huron Milling Division, Virginia Cellulose Department
HERCULES POWDER COMPANY
INCORPORATED
900 Market Street, Wilmington 99, Delaware

VH60-2

EXHIBIT HALL IN MASONIC MEMORIAL AUDITORIUM



Procter & Schwartz, Inc. 69

Exhibit: New—the Proctor Jet Dryer is designed for high production drying of granular food products.

Continuous drying ranges, continuous automatic bread cooler, continuous freezing and hardening equipment, spray dryers.

Personnel: W. A. Dickinson, Jr., R. L. Hendricks, J. F. Scott, W. M. Clelland.

Quaker Oats Company 26

Exhibit: A complete line of thermo-processed and specially processed flours and grain products, milled exclusively for industrial cereal users.

Personnel: J. W. Fulpaa, J. D. Finch, Ben Grogg.

Radio Corp. of America 79

Riegel Paper Corp. .....41 & 42

Exhibit: Packages made with flexible protective materials including such items as reverse printed glassine and film and positive printed webs "over-coated" with resin and lacquer. The Carolina division will show bleached board folding cartons made with Riegel Foldcote.

Rietz Manufacturing Co. 68

F. Ritter & Co. 104

Rohm & Haas Company 72

Exhibit: Rhozyme and Pectinol series of enzyme products.

Personnel: Dr. Marcel D. Labbee, Dr. Dale A. Harris, Dr. William F. Serat, Richard D. Prime.

Wm. J. Stange Co. 1

Exhibit: Spice, soluble seasonings, concentrated seasonings, certified food colors.

Personnel: D. J. Ridenour, J. Kilbuck, C. B. Rasmussen, Aladar Fonyo, H. Irwin Martin, R. Kline, S. L. Hutchison, F. K. Koepke, C. A. Wood, Jack Kay, William Dainius.

Sterwin Chemicals, Inc. 21

Exhibit: New—water soluble certified FD&C colors in lecithin solution that are completely miscible in food fats and oils, Parakeet brand.

Zimco brand of Lignin vanillin, U.S.P.; B-E-T-S, food enrichment tablets; Vextram, vitamin enrichment powders; Roccal, quaternary ammonium germicide; vitamins.

Sugar Information, Inc. .....63 & 64

Thermovac, Inc. 3

Ungerer & Company, Inc. 62

Vacu-Dry Company 100

Vitagen Corporation 93

Wallerstein Company, Div. of Baxter Labs, Inc. 103

Exhibit: New—a pectinase enzyme known as Klerzyme. It is offered in two grades, Klerzyme 50 for clarification of apple juice and Klerzyme 200 for clarification of fruit juices, wines and the destruction of pectins in other products.

Enzymes for analytical purposes: Alpha Amylase, Beta Amylase, Malt Diastase, Mylase P, Enzyme PX-10, Invertase scales.

Personnel: Dr. R. C. Ottke, Dr. Otmar Silberstein, William Barney, P. P. Gray, Vince Whalen, Bill Hickey, Dr. K. L. Howard, Dr. E. J. Beckhorn.

Warner-Jenkinson Mfg. Co. 101

Exhibit: Lakes of the FD&C colors, newly approved for use in food. Flavors. Personnel: James E. Noonan, J. B. Blatterman, G. F. Meyer, Jr., Paul Donahue, D. K. Wright.

R. D. Webb & Co., Inc. 29

Exhibit: Flavoring extracts.

Personnel: John Ehresmann, John Orphan, W. G. Brindise, A. R. Evans, R. D. Webb.

White Cap Co. .....82 & 83

Exhibit: New—a "Twist-Off" cap on baby food.

A representative list of food products Vapor-Vacuum sealed with "Twist-Off" and pry-off type closures.

Personnel: J. C. Swift, A. D. King, R. F. Norcott, H. T. Stockholm, J. J. Scanlon, R. B. White, D. H. Zipper, H. A. Cox.

Wilkens Instrument & Research, Inc. ..38

Wyandotte Chemicals Corp. 76

PROGRAM: Annual Meeting

Authors, titles, times and places

SAN FRANCISCO SESSIONS
MONDAY MORNING—May 16

General Session. Auditorium — Masonic Temple

Chairman: George F. Stewart, Univ. of Calif., Davis

8:45—Official Opening: J. H. Kilbuck, William J. Stange Co.

9:00—Presidential Address: R. B. Wakefield, Gerber Products Co.

J. H. Kilbuck

A. C. Richardson

9:30—Scholarship and Fellowship Awards: A. C. Richardson, California Packing Corp.

10:00—Industrial Achievement Award

Concurrent Sessions, Section A—Auditorium

FOOD ADDITIVES, Chairman: J. F. Mahoney, Merck & Co.

10:20—Introductory Remarks

10:30—1. RECENT PROGRESS IN THE CONSIDERATION OF FLAVORING INGREDIENTS UNDER THE FOOD ADDITIVES AMENDMENT.
Richard L. Hall, McCormick & Co.

10:50—2. AN ORGANIC CHEMISTS' APPROACH TO SOME PROBLEMS RAISED BY THE FOOD LAW AMENDMENT.
L. E. Schniepp, H. O. Etian and J. M. Jackson, American Can Co.

11:10—3. BIOLOGICAL SCREENING TECHNIQUES FOR FOOD ADDITIVES.
Margaret Ives and Edythe M. Nagler, American Can Co.

11:30—4. A SYSTEM FOR APPLICATION OF THE FOOD AND DRUG ACT (AS AMENDED) IN A MULTI-PLANT, MULTI-PRODUCT FOOD COMPANY.
Zenas Block, Paul Khan, and Pauline Goldman, DCA Food Industries.

11:45—5. ANTIBIOTIC PRESERVATION OF BEEF WITH SUBSEQUENT FEEDING TO EXPERIMENTAL ANIMALS.
R. B. Sleeth, J. C. Armstrong, H. S. Goldberg, H. D. Naumann, Univ. of Missouri and Armour & Co.

I. J. HUTCHINGS, (left) is president elect of the IFT. BRUNO FILICE is chairman of the Northern California section, host for the 19th Annual Meeting.

Section B, Room 3-4

FRUIT PRODUCTS, Chairman: Walter Mercer, National Canners Ass'n.

10:20—6. CHARACTERISTICS OF BROWNING ENZYMES IN FAY ELBERTA FREESTONE PEACHES.
Philip Reyes and B. S. Luh, Univ. of Calif., Davis.

10:35—7. ESTIMATION OF THE CHLOROPHYLL CONTENT AND MATURITY OF ELBERTA PEACHES BY USE OF LIGHT-TRANSMITTANCE TECHNIQUES.
Arthur P. Sidwell, Gerald S. Birth, Jane V. Ernest, and Calvin Golumbic, Agr. Mktg. Services, U.S.D.A.

10:50—8. BROWNING OF SUGAR SOLUTIONS. VI. ISOLATION AND CHARACTERIZATION OF THE BROWN PIGMENTS IN MAPLE SIRUP.
Harry G. Lento, C. O. Willits and J. C. Underwood, Eastern Regional Lab., U.S.D.A.

11:10—9. THE CORRELATION OF COLOR MEASUREMENTS ON CANNED PURPLE PLUMS WITH CONSUMER ACCEPTABILITY.
Oliver J. Worthington, Oregon State College.

11:30—10. COMPOUNDS RESPONSIBLE FOR THE COLOR OF BLACK "RIPE" OLIVES.
Kenneth L. Simpson, C. O. Chichester and R. H. Vaughn, Univ. of Calif., Davis.

11:50—11. DIFFUSION STUDIES ON OLIGOSACCHARIDES.
M. C. Bourne, C. O. Chichester and C. S. Sterling, Univ. of Calif., Davis.

J. F. Mahoney

W. A. Mercer

12:10—203. SOME ASPECTS OF THE USE OF SUGAR IN FOOD PROCESSING.
H. B. Hass, Sugar Research Foundation.

Section C, Room 5-6

FISH, MEAT AND POULTRY, Chairman: C. O. Ball, Rutgers University

10:20—12. SPECTROPHOTOMETRIC STUDIES OF THE PIGMENTS OF COOKED AND COOKED-CURED MEATS.
A. L. Tappel, Univ. of Calif., Davis.

10:40—13. TRYPTOPHAN AND HYDROXYPROLINE AS THE INDEXES OF MUSCLE PLASMA PROTEINS AND THE CONNECTIVE TISSUE IN ANIMAL TISSUES AND THEIR USE FOR THE ESTIMATION OF NUTRITIONAL VALUES OF MEAT AND MEAT PRODUCTS.
Eugen Wierbicki, George Christianson and Robert C. Burrell, Rath Packing Co.

11:00—14. COMPARISON OF RATE OF COOKING AND DONENESS OF FRESH AND FROZEN DEFROSTED TURKEY HENS.
Grayce E. Goertz, Anna S. Hooper and Dorothy L. Harrison, Kansas State University.

11:20—15. THE EFFECT OF OVEN AIR TEMPERATURE, AIR FLOW AND PRESSURE ON THE ROASTING OF ROUNDS OF BEEF (YIELD AND ROASTING TIME).
Charles M. Schoman, Jr. and C. Olin Ball, U.S. Navy Supply Research & Development Facility and Rutgers University.

11:40—16. MOISTURE CONTENT OF PORK MEAT AND ITS RELATIONSHIP TO LEANNESS.
E. Karmas, H. E. Wistreich and J. E. Thompson, Reliable Packing Co.

C. O. Ball

R. H. Vaughn

Section D, Room 7-8

MICROBIOLOGY AND PUBLIC HEALTH Chairman: R. H. Vaughn, Univ. of Calif., Davis.

10:20—17. A COMPARISON OF THE INHIBITORY EFFECTS OF SORBATE, BENZOATE AND VITAMIN K_5 ON SELECTED YEAST STRAINS.
E. S. Smith, J. F. Bowen and D. R. MacGregor, Canadian Dept. of Agr. (Canada).

10:40—18. BENZOATE-RESISTANT YEASTS.
M. Ingram, Low Temperature Research Station (England).

11:00—19. GERMICIDAL EFFECT OF ORANGE PEEL OIL AND d-LIMONENE IN WATER AND ORANGE JUICE. PART I. FUNGICIDAL PROPERTIES AGAINST YEAST.
D. I. Murdock and W. E. Allen, Minute Maid Corp.

11:20—20. THE SANITATION ASPECTS OF FOOD PLANT CONSTRUCTION AND EQUIPMENT DESIGN AND INSTALLATION.
Benjamin Buchalter, Industrial Sanitation Service.

11:40—21. MICROBIOLOGICAL STANDARDS FOR FOODS.
M. Ingram, Low Temperature Research Station (England).

12:00—22. PEST CONTROL—EX POST FACTO?
Benjamin Buchalter, Industrial Sanitation Service.

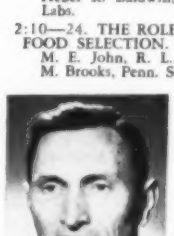
MONDAY AFTERNOON

Concurrent Sessions. Section A—Auditorium

CONVENIENCE AND INSTANT FOODS. Chairman: E. B. Oberg, Carnation Co.

1:40—23. COMMERCIAL DEVELOPMENT OF AN AEROSOL WHIPPED TOPPING.
Heber R. Baldwin, National Dairy Research Labs.

2:10—24. THE ROLE OF CONVENIENCE IN FOOD SELECTION.
M. E. John, R. L. Baker, H. B. Bylund, T. M. Brooks, Penn. State Univ.



E. B. Oberg

G. F. Stewart

2:30—25. DIRECT PROCESSES FOR PRODUCTION OF POTATO GRANULES.
C. E. Hendel, G. K. Notter, R. M. Reeve, M. E. Lazar and W. R. Mullins, Western Regional Lab., U.S.D.A.

2:50—26. THE VITAMIN FORTIFICATION OF POTATO FLAKES.
James Cording, Jr., Roderick K. Eskew, G. J. Salinard and John F. Sullivan, Eastern Regional Lab., U.S.D.A. and Hoffmann-La-Roche, Inc.

3:10—27. DEVELOPMENT OF PRE-COOKED, DEHYDRATED MEAT ITEMS FOR MILITARY USE.
J. M. Tuomy, Rosario Buscemi, and M. C. Brockmann, Quartermaster Food & Container Institute.

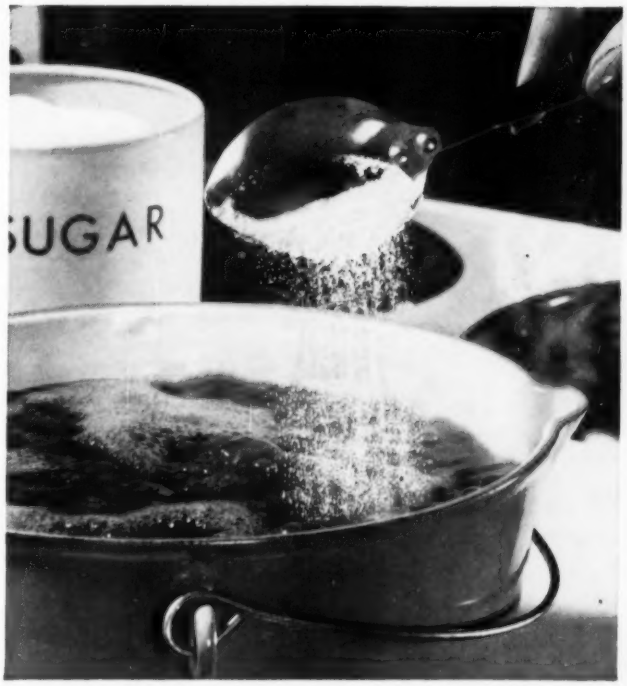
(Continued on Page 49)

The soup kettle that helps sell products containing sugar

Sugar brings out the best in a lot of foods—even vegetable soup

Many food products... including canned goods... contain hidden flavor aromas

Sugar helps release these aromas, delivering a brighter flavor message



Why does sugar go into the soup kettle?

Now science tells us what good cooks always knew

Sugar enhances the flavor of so many foods—even vegetable soup

That's because most foods have hidden aromas that deliver the real flavor message

A little sugar releases these aromas, adds flavor brightness

18 CALORIES!

SUGAR INFORMATION, INC.

The Soup Kettle in this month's Sugar Information ad dramatically illustrates sugar's role in making other good foods taste better. This ad also points out to 80 million Americans the advantages of sugar in providing quick energy and satisfying the appetite with few calories.

SUGAR INFORMATION, INC.

New York 5, New York

SUGAR means sucrose (both cane and beet)

These, too, have gone modern!

Because their competitive situation now demands packaging with maximum convenience-in-use, pourable dressings are swinging over, fast, to the ¼-turn Twist-Off

In the snowballing movement to modernize glass pack sealing, the dressings-and-vinegar group are now showing up very prominently. Brand after brand, in a steady parade, has been turning to the Vapor-Vacuum ¼-turn Twist-Off.

On these two pourable commodities, the quick-action Twist-Off has particular appeal. Here, *the way the package is used* makes cap convenience especially important. Opening and re-sealing are extra-frequent. Hence, easy opening and closing are a powerful factor in consumer reaction to the package.

Ever since Twist-Offs for dressings first became available, shoppers have been growing more and more conscious of the convenience of this cap. They like it—and they want it!

From the packer's standpoint, there's every reason to go along with this growing consumer preference. The Twist-Off is a true Vapor-Vacuum Cap, with *all the long-term power of the Vapor Vacuum seal to protect the delicate flavor and aroma of each packer's carefully developed formulations.* And, like all Vapor-Vacuum Caps, the Twist-Off is highly efficient and economical on the packaging line, too.

So the modernization movement in dressings and vinegars keeps on surging ahead—with packers, merchandisers, and consumers all benefiting by it.

"VAPOR-VACUUM"
Seal and Re-Seal

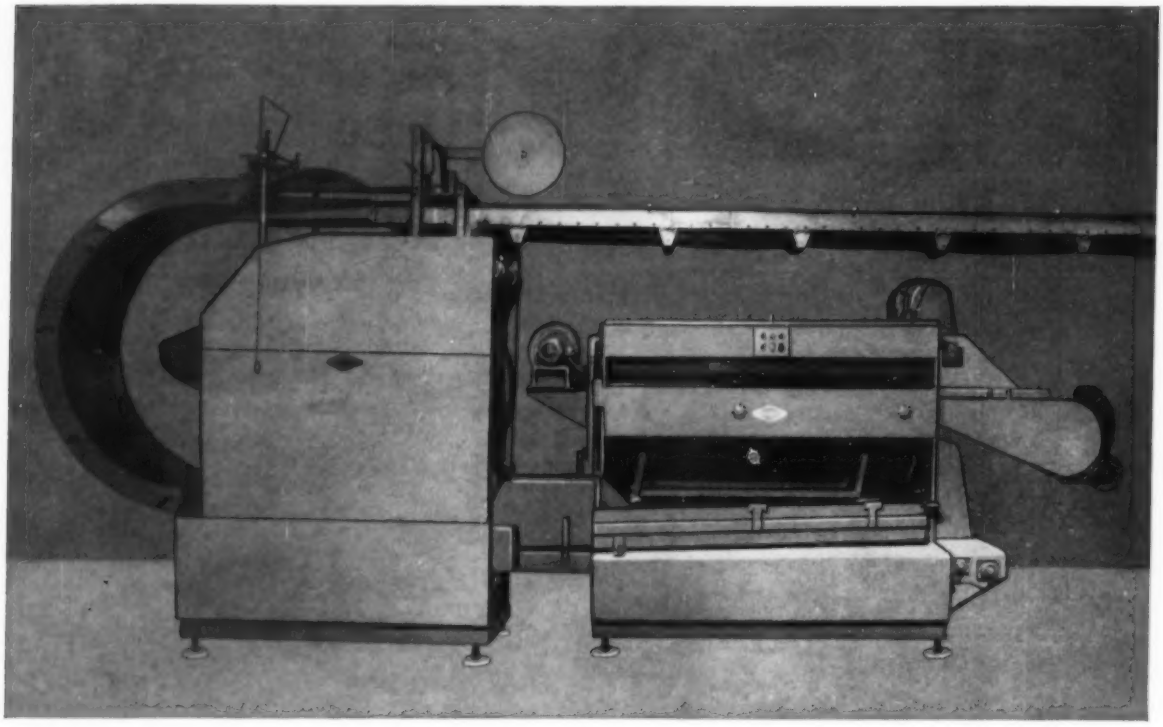
WHITE CAP COMPANY

DIVISION OF CONTINENTAL © CAN COMPANY

4-60

NEW "Twist-Off" CAP
Twist-Off
Twist-Off CAP

NEW! . . . from ATKRON DUMORE



Can Sorter Speeds Production– Takes Minimum Floor Space!

Model CUS 6.5D is a high-speed automatic sorting machine for use where space is at a premium. Handles all standard cans to 32 oz., or any group of cans where the smallest is one inch longer than the diameter of the largest. Completely automated—requires only casual attention of one man. Equipped with rubber bin sweeps to protect cans. Lifetime magnets . . . sturdy construction. Can be equipped with single or dual discharge chutes. Uses 220, 440 or 550 volts (± 10%), 3-phase, 60-cycle; models for other services available.

CUS 6.5D CAN SORTER APPROXIMATE MAXIMUM CAPACITIES WITH DIFFERENT SIZE CANS	
Size of Can	Cans Per Minute—Model 6.5D
6 oz. (Citrus)	1,000
12 oz. (Beer)	750
16 oz. (Beer)	575
32 oz. (Oil)	500

New continuous motion Case Packer—packs up to 30 cases a minute!

- Automatically packs all size bottles, cans and jars in single or multiple layers, interchangeably, in same machine.
- Insures full cases at every drop; prevents bottle and label scuffing.
- Complete changeover in 20 minutes.
- No compressed air required.

Check the other ATKRON DUMORE equipment: Full Depth Uncaser, Half Depth Uncaser, Can Sorters and Uncasers, and Four Flap Openers.

Write for complete information . . . it can easily make the difference between profit and loss in your plant!

ATKRON DUMORE

MANUFACTURED BY ATKRON, INC., CUYAHOGA FALLS, OHIO

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ECONOMIC MACHINERY CO. WORCESTER 3, MASS.
Division of Geo. J. Meyer Manufacturing Co.

and GEO. J. MEYER MANUFACTURING CO. MILWAUKEE, WIS.

AT-160-6

IFT ANNUAL MEETING

3:30—28. SOME PRACTICAL FACTORS TO CONSIDER IN USING INSTANT NONFAT DRY MILK IN QUANTITY FOOD PREPARATION.
Mrs. Madge Little, American Dry Milk Institute.

3:50—29. THE EFFECT OF PREPARATION ON THE STABILITY AND PERFORMANCE OF FROZEN, UNBAKED YEAST-LEAVEN DOUGHS.
Paul P. Merritt, Red Star Yeast & Products Co.

4:10—30. INSTANT BREAD MIX: CONSUMER ACCEPTANCE OF PREPARED BREAD.
Marion Simone, Nancy Sharrah and C. O. Chichester, Univ. of Calif., Davis.

4:30—31. INSTANT BREAD MIX: STUDIES ON THE DEHYDRATION OF FLAVORING MATERIALS.
C. O. Chichester, Nancy Sharrah and Marion Simone, Univ. of Calif., Davis.

4:50—32. GRANULATED POTATO FLAKES.
Roderick K. Eskew, John F. Sullivan, Fred H. Drazga and Charles F. Woodward, Eastern Regional Lab., U.S.D.A.

J. H. Gast

L. A. Underkofler

Section B, Room 3-4
GENERAL RESEARCH. Chairman: J. H. Gast, Resources Research, Inc.

1:40—33. PRECIPITATION OF FOOD GUMS BY THIAZINE, OXAZINE AZINE AND OTHER BASIC DYES — SPECIFICITY OF THE METHYLENE BLUE—CARRACEENAN REACTION.
Horace D. Graham and Linnie B. Thomas, Carver Foundation, Tuskegee Institute.

2:00—34. SPECTROPHOTOMETRIC AND CHROMATOGRAPHIC STUDIES OF *HIBISCUS* SABDARIFFA EXTRACTS.
Hussein O. A. Osman, Univ. of Alexandria (UAR) and Rutgers Univ.

2:20—35. ESTIMATION OF ALCOHOL AND SUGAR CONTENTS OF ALCOHOLIC BEVERAGES BY REFRACTIVE INDEX, SPECIFIC GRAVITY, AND DILATOMETRIC METHODS.
R. J. Vilece and A. S. Levine, Univ. of Florida.

2:40—36. RAPID METHOD FOR REMOVING ORGANIC COATINGS FROM TIN CANS.
Charles H. Coleman and John E. Despaul, Quartermaster Mil. Subs. Lab.

3:00—37. THE EFFECT OF METHOD OF CARE ON THE FRYING LIFE OF FAT.
M. Elizabeth Rust and Dorothy L. Harrison, Kansas State Univ.

3:20—38. SOME FACTORS AFFECTING THE INHIBITION OF THE CUPRIC OXIDATION OF ASCORBIC ACID BY CALCIUM EDTA (DISODIUM CALCIUM ETHYLENEDIAMINE TETRAACETATE).
Paul A. Wolf, Dow Chemical Co.

3:40—39. OXYGEN-SCAVENGERING PACKET FOR IN-PACKAGE DEOXYGENATION.
Don Scott and Frank E. Hammer, Fermco Laboratories.

4:00—40. THE ROLE OF GLUTAMIC ACID SALTS IN SALAD DRESSINGS.
James J. Albrecht and Louis A. Wollermann, International Minerals & Chemical Corp., and Blue Seal Food Products, Inc.

4:20—41. LONG-TERM STORAGE OF PROCESSED FOODS.
S. R. Cecil and J. G. Woodroof, Georgia Agr. Exp. Station.

4:40—42. NATURAL GUMS AND STABILIZERS FOR THE FOOD PROCESSOR.
Leonard M. Waldt, Morningstar-Paisley, Inc.

5:00—202. STUDIES ON ENGLISH (PERSIAN) WALNUTS, *JUGLANS REGIA*. II. STABILIZATION OF KERNELS.
Louis B. Rockland, Fruit & Veg. Chem. Lab., U.S.D.A. and D. M. Swarthout and R. A. Johnson, Diamond Walnut Growers Inc., Stockton.

Section C, Room 5-6
BASIC RESEARCH—FOOD ENZYMES, Chairman: L. A. Underkofler, Miles Chemical Co.

1:40—Introductory remarks.

1:50—43. COMPARATIVE ACTION OF PROTEASES ON PROTEINS.
R. M. Heinicke, R. Mori and S. Nakata, Hawaiian Pineapple Co.

2:10—44. PROPERTIES OF THE ACID PHOSPHATASES IN COMMERCIAL STEM BROMELAIN.
R. M. Heinicke, A. Chun and R. Mori, Hawaiian Pineapple Co.

2:30—45. THE INHIBITION OF POLYGALACTURONASE IN BRINED CHERRIES.
H. Y. Yang, Wilbert F. Steele and Donald J. Graham, Oregon State College.

2:50—46. DEVELOPMENTS IN THE ROLE OF ENZYMES IN THE SOFTENING OF BRINED CHERRIES.
Myron J. Powers, Edward Ross, Glenn G. Watters, Rogernald Jackson and John E. Brekke, Washington State Univ. and Western Regional Lab., U.S.D.A.

3:10—47. ENZYMATIC CONVERSION OF BARLEY CARBOHYDRATES TO SYRUP.
K. J. Goering and M. J. Houle, Montana State College.

3:30—48. THE COMPLEMENTARY EFFECTS OF THERMAL ENERGY AND IONIZING ENERGY ON PEROXIDASE ACTIVITY IN GREEN BEANS.
R. W. Baker and S. A. Goldblith, Massachusetts Institute of Technology.

3:50—49. THE ACTION OF AN ENZYME FOR THE FLAVOR ENHANCEMENT OF LEGUMES.
Richard R. Barton, Miles Chemical Co.

4:10—50. STUDIES OF THE ENZYMES AND METABOLITES OCCURRING IN FISH.
M. R. Gumbmann, W. D. Brown, A. L. Tappel, Univ. of Calif., Davis.

4:30—51. ACTION OF BACTERIAL LIPASES ON NATURAL FATS AS DETERMINED BY GAS CHROMATOGRAPHY.
John A. Alford, Llewellyn E. Elliott and Leroy C. Blankenship, Eastern Regional Lab., U.S.D.A.

C. P. Bolton

R. A. Bernhard

Section D, Room 7-8
FISH, MEAT, MILK AND POULTRY. Chairman: Aloys Tappel, Univ. of Calif., Davis

1:40—52. THE CHEMICAL COMPOSITION OF BEEF PROTEIN FRACTIONS BEFORE AND AFTER IRRADIATION.
P. A. Hedin, G. W. Kurtz and Robert B. Koch, Quartermaster Food & Container Institute.

2:00—53. A STUDY OF PHYSICAL AND CHEMICAL CHANGES IN BEEF PROTEIN CAUSED BY LYOPHILIZATION.
Dorothy A. Johnson, George W. Kurtz and Robert B. Koch, Quartermaster Food & Container Institute.

2:20—54. THE PROXIMATE COMPOSITION OF PACIFIC OCEAN PERCH AND NINE OTHER SPECIES OF ROCKFISH.
Claude E. Thuston, Bureau of Commercial Fisheries, U.S.D.I.

2:40—55. THE CHEMICAL COMPOSITION OF RAW, PRECOOKED, AND CANNED TUNA. I. CORE SAMPLING METHODS.
Clarence J. Carlson and Claude E. Thurston, Bureau of Commercial Fisheries, U.S.D.I.

3:00—56. EFFECT OF VINYL FILM PACKAGING ON PALATABILITY OF FROZEN TURKEY FRYER-ROASTERS.
J. D. Winter, Shirley R. Trantanella, Milo H. Swanson and W. B. Ackart, Univ. of Minnesota.

3:20—57. THE EFFECTIVENESS OF SELECTED FILMS FOR FRESH BEEF COLOR STABILITY IN SELF-SERVICE RETAIL DISPLAY.
G. H. Wellington, Cornell University.

3:40—58. DETERMINATION, IN EGG WHITE, OF LIPIDS AND THEIR EFFECTS UPON PERFORMANCE.
Charles F. Smith, Charles K. Stearns and Eugene Kolen, National Dairy Products Corp.

4:00—59. EFFECTS OF DIFFERENT THAWING TEMPERATURES ON FROZEN CONCENTRATED MILK.
Alexander Spear, U.S. Naval Supply Research and Development Facility.

MONDAY EVENING

Section A—Far East Room, Fairmont Hotel

8:00 P.M.—CONVENIENCE FOODS PACKAGING PROBLEMS.
Discussion Leader—C. P. Bolton, Carnation Co.

Section B—Twentieth Century Room, Fairmont Hotel

8:00 P.M.—FLAVOR NOMENCLATURE COMMITTEE.
Chairman—R. A. Bernhard, Univ. of Calif., Davis.

Section C—Frontier Room, Fairmont Hotel

8:00 P.M.—CITRUS PRODUCTS COMMITTEE.
Chairman—C. H. Brokaw, Minute Maid Corp.

TUESDAY MORNING

Concurrent Sessions, Section A—Auditorium, Masonic Temple
FOOD ENGINEERING. Chairman: Edward Seltzer, Thomas J. Lipton, Inc.

8:40—60. PRINCIPLES OF INDUSTRIAL ENGINEERING IN A FROZEN FOOD PLANT.
Charles Calleros, Sacramento Freezers, Inc.

9:00—61. ECONOMIC EFFICIENCY IN FOOD PLANT OPERATIONS.
R. G. Bressler, Univ. of Calif., Davis.
R. G. Bressler, Univ. of Calif., Berkeley.

9:20—62. THE MILITARY LOOKS AT FREEZE DEHYDRATION ECONOMICS AND ENGINEERING.
Raymond R. Haugh and F. P. Mehrlich, Quartermaster Food and Container Institute.

9:40—63. ECONOMIC - ENGINEERING RESEARCH IN FOOD PROCESSING PLANTS.
B. C. French and L. L. Sammet, Univ. of Calif., Davis and Berkeley.

10:00—64. THE EXTENSION SERVICE AS AN AID TO MANAGEMENT.
Eric Thor, Univ. of Calif., Berkeley.

10:20—65. RECENT ADVANCES IN AUTOMATION IN WHOLESALE BAKERY OPERATIONS.
J. A. Abbott, Food Machinery & Chemical Corp.

10:40—66. COMPARATIVE COSTS OF FRUIT JUICE AND PUREE DRYING PROCESSES.
G. Bard, W. Conley and F. Fizari, Chain Belt Co.

11:00—67. OPERATIONAL FACTORS INFLUENCING THE EFFICIENCY OF FREEZE DRYING.
M. C. Brockmann and J. M. Tuomy, Quartermaster Food & Container Institute.

C. H. Brokaw

John E. Brekke

11:20—68. FOAM-MAT DRYING OF ORANGE AND TOMATO.
A. I. Morgan, R. P. Graham, L. F. Ginnett and G. S. Williams, Western Regional Lab., U.S.D.A.

11:40—69. PURE VITAL WHEAT PROTEIN (GLUTEN).
James G. Moore, Blaw-Knox Co.

Section B, Room 3-4.
FRUIT PRODUCTS. Chairman: J. E. Brekke, Western Reg. Lab.

8:40—70 FURTHER STUDIES ON EFFECTS OF GAMMA RADIATION ON STORAGE LIFE AND QUALITY OF CERTAIN FRESH FRUITS AND VEGETABLES.
D. K. Salunkhe and Morris Simon, Utah State Univ. and Quartermaster Food & Container Institute.

IFT ANNUAL MEETING

9:00—71. QUALITY OF MECHANICALLY HARVESTED RED CHERRIES.
R. T. Whittenberger, Eastern Regional Lab., U.S.D.A. and J. H. Levin, S. L. Hedden and H. P. Gaston, Michigan State University.

9:20—72. FACTORS AFFECTING THE QUALITY OF CANDIED WHOLE KUMQUATS.
R. J. Vilece, Univ. of Florida.

9:40—73. STUDIES ON THE DRAINED WEIGHT OF FROZEN RED CHERRIES.
Claude H. Hills, E. C. Dryden and James F. Robinson, Eastern Regional Lab., U.S.D.A.

10:00—74. THE EFFECT OF BRUISING ON THE STRUCTURE AND PHYSICAL PROPERTIES OF RED CHERRIES.
M. L. Buch and Claude H. Hills, Eastern Regional Lab., U.S.D.A.

10:20—75. SPECTROPHOTOMETRIC DETERMINATION OF SORBIC ACID IN APPLE CIDER.
W. O. Harrington, Anne M. Smith and Claude H. Hills, Eastern Regional Lab., U.S.D.A.

10:40—76. STUDIES OF CHEMICAL CHANGES ASSOCIATED WITH DETERIORATION OF DOMESTIC DATES.
V. P. Maier and Frank H. Schiller, Fruit and Vegetable Chem. Lab., U.S.D.A.

11:00—77. EVALUATION OF NEW STRAWBERRY VARIETIES FOR FREEZING AND PRESERVING.
E. R. Wolford, and J. A. Sacklin and C. D. Schwartze, Western Regional Lab., and West Washington Experiment Station.

11:20—78. FACTORS CONTRIBUTING TO THE BREAKDOWN OF FROZEN SLICED STRAWBERRIES.
William A. Sistrunk, Robert F. Cain, Edward K. Vaughan and Harry B. Lagerstedt, Oregon State College.

11:40—79. THE RELATIONSHIP OF APPLE MATURITY TO APPLESAUCE QUALITY.
Robert L. LaBelle, Robert S. Shallenberger, Leonard R. Mattick and James C. Moyer, N. Y. Agr. Exp. Station, Cornell Univ.

12:00—80. HEATING PATTERNS IN CANNED BERRY FRUITS DURING STILL PROCESSING.
R. A. Gallop and J. H. Dietz, Oregon State College.

Section C, Room 5-6
BASIC RESEARCH—FOOD LIPIDS. Chairman: Betty Watts, Florida State University

8:40—81. DEVELOPMENT AND INHIBITION OF OXIDATIVE RANCIDITY IN FOODS.
L. R. Dugan, Jr., American Meat Institute Foundation.

9:10—82. SOME BIOLOGICAL ASPECTS OF FAT DETERIORATION.
C. H. Lea, Low Temp. Research Station (England).

B. Watts

J. R. Vickery

9:40—83. THE FATTY ACID CONTENT OF THE LIPID OF SPINACH.
Leonard R. Mattick and Frank A. Lee, New York State Agr. Experiment Station.

10:00—84. CARBONYLS IN OXIDIZING FAT. IV. THE ROLE OF VARIOUS FATTY ACID COMPONENTS ON CARBONYL GENERATION.
Rex Ellis, A. M. Gaddis, G. T. Currie, Meat Lab., U.S.D.A.

10:20—85. AUTOXIDATION OF FISH OILS. I. IDENTIFICATION OF VOLATILE MONOCARBONYL COMPOUNDS FROM AUTOXIDIZED SALMON OIL.
T. C. Yu, Edgar A. Day, Russell O. Sinnhuber, Oregon State College.

10:40—86. THE EFFECT OF METHYLATION UPON THE ANTIOXYGENIC AND CHELATING CAPACITY F QHERCETIN AND DIHYDROQUERCETIN IN A LARD SUBSTRATE.
David L. Crawford, Russell O. Sinnhuber, Harvey Aft, Orgeon State College and Oregon Forest Research Center.

11:00—87. OXIDATION OF FAT IN MODEL SYSTEMS RELATED TO DEHYDRATED FOODS. II. POSITION OF DISPERSED LIPID COMPONENTS AND ITS EFFECT ON OXIDATION RATES.
S. J. Bixhov, A. S. Henick and Robert B. Koch, Quartermaster Food & Container Institute.

11:20—88. HEMATIN CATALYZED UNSATURATED LIPID PEROXIDATION AND ITS INHIBITION BY VITAMIN E.
A. L. Tappel, H. Zalkin and F. W. Knapp, Univ. of Calif., Davis.

11:40—89. PROPERTIES OF LIPIDS THAT INFLUENCE STABILITY OF SALAD DRESSING TYPE EMULSIONS SUBJECTED TO FREEZING.
Helen L. Hanson, Lorraine R. Fletcher and Leo Kline, Western Regional Lab., U.S.D.A.

12:00—90. EFFECT OF IONIZING RADIATION ON THE FAT-SOLUBLE VITAMINS.
F. W. Knapp and A. L. Tappel, Univ. of Calif., Davis.

Section D, Room 7-8
FISH, MEAT AND POULTRY. Chairman: J. R. Vickery, CSIRO (Australia)

8:40—91. CHEMICAL STUDIES ON THE AGING OF MEATS.
Masao Fujimaki and Nobuhiko Arakawa, Univ. of Tokyo (Japan).

9:00—92. DEVELOPMENT OF FREEZER-BURN AS A LIMITING FACTOR IN THE STORAGE OF ANIMAL TISSUE. III. ADDITIONAL TREATMENTS TO CONTROL F. B. (ON FROZEN OFFALS).
G. Kaess and J. R. Vickery, CSIRO (Australia).

9:20—93. PROTEOLYTIC CHANGES IN STORED BEEF. VI. EFFECT OF PRE-IRRADIATION HEATING TEMPERATURE, IRRADIATION LEVEL.
R. H. Thompson, Flor R. Bautista and R. F. Cain, Oregon State College.

9:40—94. PROTEOLYTIC ENZYME ACTIVITY DURING STORAGE OF RADIATION-STABILIZED RAW BEEF AND ITS SIGNIFICANCE TO FLAVOR.
Maurice P. Dranke, Gerald D. Gernon, Jr., and Fred J. Kraus, Quartermaster Food and Container Institute.

10:00—95. THE EFFECTIVENESS OF ACRONIZE CHLORTETRACYCLINE IN POULTRY PRESERVATION FOLLOWING LONG TERM COMMERCIAL USE.
A. Abbey, A. R. Kohler and P. F. Hopper, American Cyanamid Co.

10:20—96. STUDIES ON THE ROOM TEMPERATURE AGING OF BEEF FOLLOWING INTRAVENOUS ANTE-MORTEM INJECTION OF ACRONIZE CHLORTETRACYCLINE.
M. C. Fitman, A. Abbey, A. R. Kohler and P. F. Hopper, American Cyanamid Co.

10:40—97. EFFECT OF PRE-IRRADIATION HEATING ON THE FLAVOR AND NITROGENEOUS CONSTITUENTS OF BEEF DURING STORAGE.
Orhan G. Artar, Jerome C. R. Li and R. F. Cain, Oregon State College.

11:00—98. TIME AND TEMPERATURE TOLERANCES IN FROZEN BEEF AND PORK.
H. D. Naumann and J. L. McBee, Jr., Univ. of Missouri.

11:20—99. STABILITY FACTORS IN PACKAGED RAW MEAT.
C. Olin Ball, Rutgers University.

11:40—100. THE EFFECT OF AN ANTIOXIDANT IN THE HOG RATION ON THE STORAGE LIFE OF PORK AND LARD.
Dorothy L. Harrison, J. L. Hall and D. L. Mackintosh, Kansas State University.

TUESDAY AFTERNOON

General Session, Auditorium, Masonic Temple
Chairman: Ray Wakefield, President

1:30—Babcock-Hart Award Address.

Concurrent Sessions. Section A—Auditorium
FOOD ENGINEERING. Chairman: R. L. Baker, Penn. State Univ.

2:20—101. STERILIZATION OF PROCESSING FACILITIES.
Frank A. Bellato, Thermovac, Inc.

2:40—102. FOULING OF HEAT EXCHANGER TUBES.
A. I. Morgan and R. A. Carlson, Western Regional Lab., U.S.D.A.

3:00—103. STUDIES ON THE APPLICATION OF INFRA-RED IN FOOD PRCESSING. OF INFRARED IN FOOD PROCESSING.
E. A. Anselbergs, W. P. Mohr and J. G. Kemp, Plant Research Institute, Dept. of Agriculture (Canada).

3:20—104. DEHYDROFROZEN APPLES: RECENT DEVELOPMENTS IN PROCESSING METHODS.
M. E. Lazar, G. S. Smith and E. O. Chapin, Western Regional Lab., U.S.D.A.

3:40—105. YIELD CHARACTERISTICS OF SELECTED FOOD ITEMS PREPARED BY MICROWAVE AND CONVENTIONAL COOKING EQUIPMENT.
George A. Pollak and Louise C. Foin, U.S. Naval Supply Research and Development Facility.

R. L. Baker

E. Seltzer

4:00—106. COMPARATIVE HEATING EFFICIENCIES OF A MICROWAVE OVEN AND A CONVENTIONAL ELECTRIC OVEN.
George A. Pollak and Louise C. Foin, U.S. Naval Supply Research and Development Facility.

4:20—107. THERMAL PROPERTIES OF FOODS AT LOW TEMPERATURES: I. SPECIFIC HEAT.
S. W. Moline, J. A. Sawdye, A. J. Shor and A. P. Rinfret, Linde Co. Div., Union Carbide Corp.

4:40—108. A METHOD FOR CALCULATING THE TEMPERATURE DISTRIBUTION AND MASS AVERAGE TEMPERATURE IN CONDITION-HEATED CANNED FOODS DURING WATER COOLING.
Stanley Charm, Massachusetts Institute Technology.

5:00—109. CONTINUOUS PROCESS DATA RECORDING IN THE MANUFACTURE OF VEGETABLE FAT WHIPPING EMULSIONS.
H. W. Diamond, Rich Products Corp.

5:20—110. A MECHANICAL POULTRY MEAT EXTRACTOR.
Sterling G. Harris, Stanley E. Waskiewicz and Walter A. Zachowski, Blue Channel Corp.

Section B, Room 3-4
CITRUS PRODUCTS. Chairman: C. H. Brokaw, Minute Maid Corp.

2:20—111. THE VIABILITY OF A YEAST IN HIGH DENSITY ORANGE CONCENTRATES STORED AT VARIOUS TEMPERATURES.
Robert L. Kitchel and Martin W. Miller, Sunkist Growers and Univ. of Calif., Davis.

2:40—112. MOISTURE FORMATION IN DEHYDRATED LEMONADE.
William K. Higby, Sunkist Growers.

3:00—113. INVESTIGATIONS OF THE HYDROCARBONS IN LEMON OIL.
R. M. Ikeda, W. L. Stanley and Susan Cook, Fruit & Vegetable Chem. Lab., U.S.D.A.

3:20—114. GAS CHROMATOGRAPHIC ANALYSIS OF THE MAJOR ALDEHYDES IN LEMON, ORANGE AND GRAPEFRUIT OILS.
W. L. Stanley, R. M. Ikeda, S. H. Vannier and L. A. Rolle, Fruit & Vegetable Chem. Lab., U.S.D.A.

3:40—115. THE CARBOHYDRATES OF CITRUS PEEL.
S. V. Ting and E. J. Deszyck, Florida Citrus Commission and Citrus Exp. Station.

4:00—116. A RAPID METHOD FOR THE DETERMINATION OF OXYEN IN ORANGE JUICE.
J. A. Brent, J. A. McGouyrk and G. Rao, Minute Maid Corp.

4:20—117. AN ION-EXCHANGE STUDY OF THE AMINO ACIDS IN CITRUS FRUITS.
Robert L. Clements, Univ. of Calif., Riverside.

4:40—118. THE DETERMINATION OF SOLUBLE SOLIDS IN CITRUS JUICES. I. THE EFFECT OF NON-SUCROSE CONSTITUENTS ON REFRACTOMETER VALUES.
W. Clifford Scott, Donald A. Morgan and M. K. Veldhuis, Fruit & Vegetable Products Lab., U.S.D.A.

(IFT SECTION . . . Page 18)

5:00—119. CONSUMER OPINION OF SWEETENERS IN FROZEN CONCENTRATED LEMONADE AND ORANGE JUICE DRINK.
Rose Marie Pangborn, G. L. Marsh, W. R. Channel and H. Campbell, Univ. of Calif., Davis.

Section C, Room 7-8

BASIC RESEARCH—FOOD PROTEINS. Chairman: M. L. Anson (England)

2:40—120. WHEAT GLIADIN IN FOAMS FOR FOOD PRODUCTS.
C. E. McDonald and J. W. Pence, Western Regional Lab., U.S.D.A.

3:00—121. MYOGLOBIN.
J. B. Neilands, Univ. of Calif., Berkeley.

3:20—122. MILK PROTEINS.
N. J. Hipp and T. L. McMeekin, Eastern Regional Lab., U.S.D.A.

3:40—123. PROPERTIES AND FOOD USES OF SOYBEAN PROTEIN.
Allan K. Smith and Walter J. Wolf, Northern Regional Lab., U.S.D.A.

4:00—124. GEL ELECTROPHORESIS AND ITS APPLICATION TO ANALYSIS OF THE CASEINS.
R. G. Wake and R. L. Baldwin, Stanford University.

4:20—125. THE EGG-WHITE PROTEINS. THEIR ROLES IN THE PROPERTIES OF EGGS AND EGG PRODUCTS.
Robert E. Feeney, Univ. of Nebraska.

4:40—126. DAMAGE TO PROTEINS AND AMINO ACIDS BY IONIZING RADIATION.
K. S. Ambe, A. L. Tappel, P. Markakis and R. Romani, Univ. of Calif., Davis.

Section D, Room 5-6

FISH, MEAT AND POULTRY. Chairman: H. L. A. Tarr, Pacific Fisheries Exptl. Station (Canada)

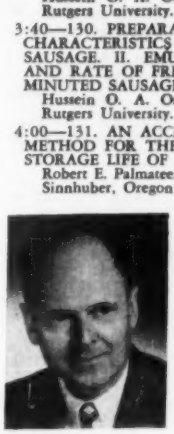
2:40—127. ANTIBIOTIC RESIDUES AND KEEPING QUALITY OF PORK RESULTING FROM THE INTRAVENOUS ANTE-MORTEM INJECTION OF ACRONIZE CHLORTETRACYCLINE.
A. R. Kohler, A. Abbey, M. C. Firman and P. F. Hopper, American Cyanamid Co.

3:00—128. CHEMICAL CONTROL OF MICROBIAL SPOILAGE IN FRANKFURTERS.
G. Robert DiMarco, Henry J. Izzo and Roy E. Morse, Rutgers University.

3:20—129. PREPARATION AND STORAGE CHARACTERISTICS OF FREEZE-DRIED SAUSAGES. I. FORMULATION AND PROCESSING OF COMMINUTED SAUSAGES. (FRANKFURTERS).
Hussein O. A. Osman and Roy E. Morse, Rutgers University.

3:40—130. PREPARATION AND STORAGE CHARACTERISTICS OF FREEZE-DRIED SAUSAGE. II. EMULSION STABILIZATION AND RATE OF FREEZE-DRYING IN COMMINUTED SAUSAGES (FRANKFURTERS).
Hussein O. A. Osman and Roy E. Morse, Rutgers University.

4:00—131. AN ACCELERATED OXIDATION METHOD FOR THE ESTIMATION OF THE STORAGE LIFE OF FROZEN SEAFOODS.
Robert E. Palmateer, T. C. Yu and Russell O. Sinnhuber, Oregon State College.



H.L.A. Tarr

A. Kramer

4:20—132. THE PREVENTION OF BLUE DISCOLORATION OF CANNED CRAB MEAT BY FRACTIONAL COAGULATION AND LOW TEMPERATURE COOKING METHODS.
Isami Osakabe, Tokyo Univ. of Fisheries (Japan).

4:40—133. FORMATION OF ACETOIN IN COD FILLETS DURING REFRIGERATED STORAGE.
Herman S. Groninger, Jr., U.S. Fish and Wildlife Service.

5:00—134. STUDIES ON THE ESTIMATION OF THE STORAGE LIFE OF RAW FISHERY PRODUCTS.
Peter Lerke and Lionel Farber, Univ. of Calif., San Francisco.

WEDNESDAY MORNING

Concurrent Sessions. Section A — Auditorium.

QUALITY CONTROL—INSTRUMENTATION. Chairman: Amihud Kramer, Univ. of Maryland

8:40—135. STANDARDIZED COLOR MEASUREMENTS OF FOOD PRODUCTS.
Richard S. Hunter, Hunter Associates Lab.

9:00—136. NONDESTRUCTIVE MEASUREMENT OF QUALITY FACTORS BY LIGHT TRANSMITTANCE.
Karl H. Norris, Agr. Mktg. Service, U.S.D.A.

9:20—137. FOOD TEXTURAL MEASURING INSTRUMENTS AND THEIR STANDARDIZATION AND CALIBRATION.
Bernard A. Twigg, Univ. of Maryland.

9:40—138. USE OF GAS CHROMATOGRAPHY IN FLAVOR QUALITY CONTROL.
William H. Stahl, McCormick & Co.

10:00—139. AUTOMATIC CONTROL OF A ROTARY PISTON FILLING MACHINE BY A NUCLEAR FILL LEVEL MEASURING SYSTEM.
Robert A. Knapp and Douglas W. Schafroth, Industrial Nucleonics Corp.

10:20—140. STANDARDIZATION OF COFFEE COLOR MEASUREMENT.
Ernest E. Lockhart, Coffee Brewing Institute.

STATISTICAL QUALITY CONTROL

10:40—141. OPTIMUM SAMPLING PROCEDURES FOR RAW PRODUCTS.
Gordon A. Rowe, Univ. of Calif., Berkeley.

11:00—142. A GRAPHIC SEQUENTIAL SAMPLING PROCEDURE FOR MOLD COUNT DETERMINATION.
Norman A. Olson and Gordon A. Rowe, Natl. Canners Assoc. and Univ. of Calif., Berkeley.

11:20—143. STATISTICAL QUALITY CONTROL TECHNIQUES IN CANNING PLANTS.
Norman E. Liles, Tri-Valley Packing Assoc.

11:40—144. QUICK RANK TESTS FOR DETERMINING STATISTICALLY SIGNIFICANT DIFFERENCES.
Amihud Kramer, Univ. of Maryland.

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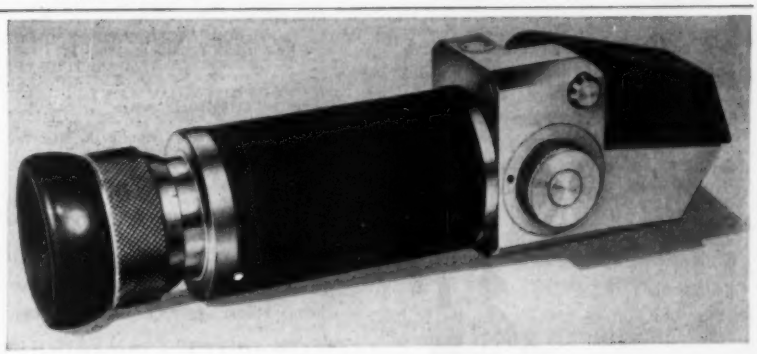

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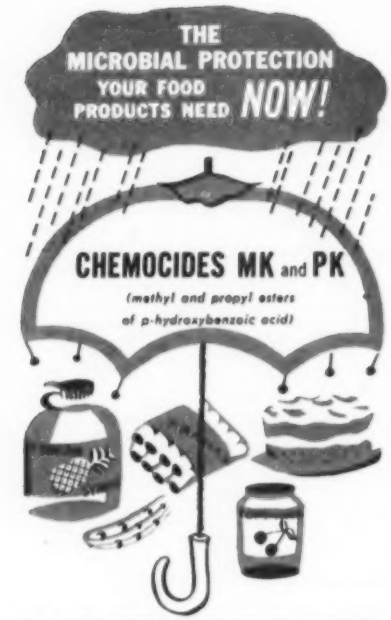

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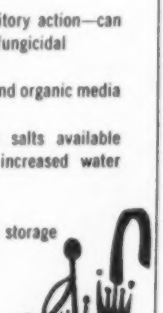

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IFT ANNUAL MEETING

Section B, Room 3-4
VEGETABLE PRODUCTS. Chairman: C. T. Townsend, National Canners Ass'n.

8:40—145. COLOR AND ENZYME INACTIVATION OF PROCESSED PEAS.
H. W. Adams and E. S. Yawger, Food Machinery & Chemical Corp.

9:00—146. DEGRADATION OF CHLOROPHYLL DERIVATIVES IN ACID SOLUTIONS.
S. Schanderl, C. O. Chichester and G. L. Marsh, Univ. of Calif., Davis.

9:20—147. EFFECT OF IODIZED SALT ON THE DETINNING OF CANS BY GREEN BEANS.
A. A. Kopetz and L. T. Roberts, American Can Co.

9:40—148. OPTICAL DENSITY OF TOMATO CONCENTRATES AS A MEASURE OF HEAT INDUCED CHANGES IN PRODUCT CORROSIVITY.
Harley H. Hernandez and James F. Feaster, American Can Co.

10:00—149. EFFECT OF PACKAGING FILMS AND STORAGE TEMPERATURES ON THE RIPENING OF MATURE GREEN TOMATOES.
John C. Ayres and Lincoln C. Peirce, Iowa
John C. Ayres and Lincoln C. Pierce, Iowa State University.

10:20—150. EFFECT OF SODIUM CHLORIDE, CITRIC ACID AND SUCROSE ON pH AND PALATABILITY OF CANNED TOMATOES.
Sherman Leonard, B. S. Luh and Rose Marie Pangborn, Univ. of Calif., Davis.

10:40—151. EFFECT OF HARVEST MATURITY ON CONSISTENCY OF CANNED TOMATO JUICE.
B. S. Luh, Fidel Villarreal, S. J. Leonard and M. Yamaguchi, Univ. of Calif., Davis.

11:00—152. FACTORS INFLUENCING pH VALUES OF PROCESSED TOMATOES.
Harold W. Adams, Food Machinery & Chemical Corp.

11:20—153. LOW TEMPERATURE HANDLING OF STERILIZED FOODS. II. THE STORAGE STABILITY OF THE COLOR OF HIGH TEMPERATURE SHORT TIME STERILIZED GREEN PEAS.
A. I. Epstein, E. F. Stier and C. Olin Ball, Rutgers University.

11:40—154. LOW TEMPERATURE HANDLING OF STERILIZED FOODS. IV. THE EFFECTS OF STORAGE TEMPERATURE ON THE QUALITY OF FROZEN AND OF HTST AND CONVENTIONALLY STERILIZED CANNED VEGETABLE, SOUP, AND EVAPORATED MILK.
A. I. Epstein, G. J. Lauro, E. F. Stier and C. Olin Ball, Rutgers University.

Section C, Room 5-6
FISH, MEAT AND POULTRY. Chairman: W. J. Stadelman, Purdue Univ.

8:40—155. INFLUENCE OF FREEZING AND THAWING AND FREEZE DEHYDRATION ON THE HYDRATION AND CHARGES OF MEAT PROTEINS.
Reiner Hamm and F. E. Deatherage, Ohio State University.

9:00—156. EMULSION FORMATION IN FINELY COMMINUTED SAUSAGE.
Leo J. Hansen, Oscar Mayer & Co.

9:20—157. DETERMINATION OF MEAT SWELLING AS A METHOD FOR INVESTIGATING THE WATER-BINDING CAPACITY OF MUSCLE PROTEINS WITH LOW WATER-HOLDING FORCES.
Eugen Wierbicki, Milton G. Tiede and Glenn Cooper, Rath Packing Co.

9:40—158. TENDERED MEAT THROUGH ANTEMORTEM VASCULAR INJECTION OF PROTEOLYTIC ENZYMES.
P. A. Goeser, H. F. Bernholdt, M. Hogan and G. E. Brissey, Swift & Co.

10:00—159. TENDERNESS AND CHEMICAL COMPOSITION OF BEEF. I. VARIATIONS AMONG ANIMALS TREATED ALIKE.
Pauline C. Paul, Univ. of Calif., Davis.

10:20—160. VARIATIONS AND THEIR CAUSES IN THE MEASUREMENT OF BEEF TENDERNESS BY THE ELECTRIC GRINDER METHOD.
C. M. Schoman, Jr., J. Bell and C. Olin Ball, U.S. Naval Supply Research & Development Facility and Rutgers Univ.

10:40—161. BIOCHEMICAL FACTORS AFFECTING BEEF TENDERNESS.
N. B. Webb, O. J. Kahlenberg and H. D. Naumann, Univ. of Missouri and Michigan State Univ.

11:00—162. A COMPARISON OF OBJECTIVE PHYSICAL MEASUREMENTS TO DETERMINE MEAT TENDERNESS.
H. D. Naumann, J. D. Volk, N. B. Webb and J. L. McBee, Jr., Univ. of Missouri.

11:20—163. THE TENDERIZATION PATTERN IN ADRENALINE-TREATED POULTRY.
Donald de Fremery and Morris F. Pool, Western Reg. Lab., U.S.D.A.

11:40—164. CONSUMER ACCEPTABILITY OF BONELESS CARCASS BEEF.
H. D. Naumann, V. J. Rhodes and D. C. Buback, Univ. of Missouri.

Section D, Room 7-8
MICROBIOLOGY AND PUBLIC HEALTH RADIATION PRESERVATION—SYMPOSIUM PAPERS. Chairman: C. F. Schmidt, Continental Can Co.

8:40—THE OBJECTIVES OF THE QUARTERMASTER FOOD AND CONTAINER INSTITUTE FOR THE ARMED FORCES RADIATION RESEARCH PROGRAM.
Harry E. Gorseline, Quartermaster Food & Container Institute.

9:00—Panel Discussion:

9:20—DOSE REQUIREMENTS FOR THE RADIATION STERILIZATION OF FOOD.
W. E. Perkins, Natl. Canners Assoc., A. W. Anderson, Oregon State College and C. F. Schmidt, Continental Can Co., *Moderator*

9:20—RADIATION PASTEURIZATION OF FOOD.
Dorothy Ann Huber, Quartermaster Food & Container Institute.

9:40—BRITISH VIEWPOINT ON THE RADIATION PRESERVATION OF FOOD.
M. Ingram, Low Temp. Research Station (England).

RADIATION PRESERVATION—CONTRIBUTED PAPERS

10:00—165. EFFECT OF ELECTRON RADIATION ON SURVIVAL OF *BACILLUS STEAROTHERMOPHILUS* AT VARIOUS DEPTHS OF PENETRATION IN AGAR.
June E. Postweiler and Elwood F. Caldwell, Quaker Oats Co.

10:20—166. RADIATION STERILIZATION OF FOOD. PART II. SOME ASPECTS OF GROWTH, SPORULATION AND THE RADIATION RESISTANCE OF SPORES OF *CLOSTRIDIUM BOTULINUM* TYPE E.
C. F. Schmidt, W. K. Nank and R. V. Lechowich, Continental Can Co.

10:40—167. RADIORESISTANCE OF FIVE STRAINS OF *CLOSTRIDIUM BOTULINUM* IN SELECTED FOOD PRODUCTS.
E. Wheaton, G. B. Pratt and J. M. Jackson, American Can Co.

11:00—168. IRRADIATION RESISTANCE OF THE NATURAL BACTERIAL FLORA OF CURED HAM.
W. L. Brown, C. A. Vinton and C. E. Gross, John Morrell & Co.

11:20—169. THE EFFECT OF ADDITIVES ON RADIATION—RESISTANCE OF *CLOSTRIDIUM BOTULINUM* IN MEAT.
A. W. Anderson, R. F. Cain and P. R. Elliker, Oregon State College.

11:40—170. THE EFFECT OF BETA IRRADIATION AND CHLORTETRACYCLINE ON THE MICROBIAL FLORA OF FISH AND SHELLFISH.
Peter Lerke and Lionel Farber and Wolfgang Huber, Stanford Univ. and Univ. of Calif., San Francisco.

WEDNESDAY AFTERNOON

General Sessions—Auditorium, Masonic Temple. Chairman: Ray Wakefield, President

1:30—Nicholas Appert Award Address

2:10—Business Meeting

Concurrent Sessions. Sec. A—Auditorium
QUALITY CONTROL. Chairman: Amihud Kramer, Univ. of Maryland

2:40—171. SIMPLIFIED PROCEDURES FOR EVALUATING TASTE PANEL DATA.
H. L. Stier, Natl. Canners Assoc.

3:00—172. THE EFFECT OF NUMBER OF JUDGMENTS IN A TEST ON FLAVOR EVALUATION FOR PREFERENCE.
Lois A. Sather and Lyle D. Calvin, Oregon State College.

3:20—173. SENSORY EVALUATION OF ACCESSORY FOODS WITH AND WITHOUT CARRIERS.
Beverley J. Kroll and Francis J. Pilgrim, Quartermaster Food & Container Institute.

3:40—174. MONOTONY CHARACTERISTICS OF FOODS.
Joseph M. Kamen and David R. Peryam, Quartermaster Food & Container Institute.

(IFT SECTION . . . Page 20)

IFT ANNUAL MEETING

4:00—175. ANALYSIS OF SOME COMMON INSECTICIDES BY GAS CHROMATOGRAPHY.
K. P. Dimick, C. B. Abma and T. Z. Chu, Wilkens Instrument & Research, Inc.

VEGETABLE PRODUCTS. Chairman: C. T. Townsend, National Canners Ass'n.

4:20—176. LOW-TEMPERATURE HANDLING OF STERILIZED FOODS. V. BIOCHEMICAL CHANGES IN STORAGE.
Aaron L. Brody, Karakian Bedrosian and C. Olin Ball, Whirlpool Corp., and Rutgers University.

4:40—177. TIME-TEMPERATURE TOLERANCE OF FROZEN FOODS. QUALITY CHANGES IN CAULIFLOWER.
W. C. Dietrich, Marvel-Dare Nutting, Mildred M. Boggs and N. E. Weinstein, Western Regional Lab., U.S.D.A.

5:00—178. CHANGES IN SOYBEAN LIPIDS DURING THE TEMPEH FERMENTATION.
A. C. Wagenknecht, L. R. Mattick, L. M. Lewin, K. H. Steinkraus and D. B. Hand, N. Y. Agr. Exp. Station, Cornell University.

5:20—179. INVESTIGATIONS OF THE EQUIVALENT WEIGHTS OF DEHYDRATED DICED POTATOES AND DEHYDRATED SLICED ONIONS IN COMPARISON TO THEIR FRESH COUNTERPARTS.
H. R. Ignall, U.S. Naval Supply Research and Development Facility.

Section B, Room 3-4
FLAVOR RESEARCH—FLAVOR CHEMISTRY. Chairman: Hans Lineweaver, Western Reg. Lab., U.S.D.A.

2:40—180. VOLATILES CONTRIBUTING TO THE FLAVOR OF BARTLETT PEARS.
W. G. Jennings, S. Leonard and R. M. Pangborn, Univ. of Calif., Davis.

3:00—181. SEPARATION AND IDENTIFICATION OF COOKED BEEF FLAVOR COMPONENTS.
W. E. Kramlich and A. M. Pearson, Michigan State University.

3:20—182. CITRUS FLAVOR. VOLATILE CONSTITUENTS OF THE ESSENTIAL OIL OF THE ORANGE (CITRUS SINENSIS).
Richard A. Bernhard, Univ. of Calif., Davis.

3:40—183. A STUDY OF BEEF IRRADIATION FLAVOR BY MEANS OF CONCURRENT RADIATION-DISTILLATION.
J. E. Hoff, E. L. Wick, B. E. Proctor and S. A. Goldblith, Massachusetts Institute Technology.

4:00—184. THE PRODUCTION OF IRRADIATED ODORS FROM BEEF PROTEIN FRACTIONS AND THEIR DERIVATIONS.
P. A. Hedin, G. W. Kurtz and Robert B. Koch, Quartermaster Food & Container Institute.

4:20—185. MAPLE SIRUP. XVI. THE ISOLATION AND IDENTIFICATION OF COMPOUNDS CONTRIBUTING TO THE FLAVOR OF MAPLE SIRUP.
J. C. Underwood, C. O. Willits and Harry G. Lento, Eastern Reg. Lab., U.S.D.A.

J. R. Whitaker

Section C, Room 5-6
FISH, MEAT AND POULTRY. Chairman: J. R. Whitaker, Univ. of Calif., Davis.

2:40—186. BEEF QUALITY AS AFFECTED BY DELAYED GROWTH DUE TO PROTEIN DEFICIENCY.
Marion Simone, F. D. Carroll, C. O. Chichester and J. R. Whitaker, Univ. of Calif., Davis.

3:00—187. VARIATIONS IN MARBLING, COOKING YIELD AND EATING QUALITY OF PORK CHOPS FROM MEAT-TYPE AND FAT-TYPE HOGS.
Minerva Murphy and Agnes Frances Carlin, Iowa State University.

3:30—188. SOME FACTORS ASSOCIATED WITH TENDERNESS OF POULTRY MEAT.
W. J. Stadelman, Purdue University.

3:40—189. SOME BIOCHEMICAL CHANGES OCCURRING IN EXPERIMENTALLY INFLICTED POULTRY BRUISES.
M. K. Hamdy, J. J. Powers and K. N. May, Univ. of Georgia.

4:00—190. EFFECT OF ASCORBATE ON HEALING OF POULTRY BRUISES.
M. K. Hamdy, A. J. Desmarais, K. N. May, J. J. Powers and D. E. Pratt, Univ. of Georgia.

C. T. Townsend

W. J. Stadelman

H. Lineweaver

W. S. Ogilvy

4:20—191. TASTE PANEL EVALUATION OF CHICKENS FED DIFFERENT LEVELS OF PEANUT OIL MEAL, METHIONINE AND LYSINE.
R. J. Vilece, Univ. of Florida.

4:40—192. A NEW AND USEFUL CHELATING AGENT FOR PRESERVING THE NATURAL COLOR OF MARINE PRODUCTS, MEATS AND VEGETABLES.
Carl R. Fellers, M. S. Chann and S. S. Yang, Univ. of Mass.

Section D, Room 7-8
MICROBIOLOGY AND PUBLIC HEALTH. Chairman: W. S. Ogilvy, Mead Johnson & Co.

2:40—193. COMPARATIVE STUDIES ON MEDIA FOR COUNTING ANAEROBIC BACTERIAL SPORES II.
E. Wheaton and G. B. Pratt, American Can Co.

3:00—194. THERMAL RESISTANCE OF *CLOSTRIDIUM SPOROGENESIS* (PA 3679) AT THE INTERMEDIATE pH RANGE.
Kiyoshi Tsuji, Hamed M. El-Bisi and William B. Esselen, Univ. of Massachusetts.

3:20—195. LOW TEMPERATURE HANDLING OF STERILIZED FOODS III. MEDIUM FOR ESTABLISHING REQUIREMENTS FOR SPORULATION BY A *CLOSTRIDIUM*.
Gabriel J. Lauro, C. O. Ball and Roy E. Morse, Rutgers University.

3:40—196. NUTRITIONAL STUDIES ON *LACTOBACILLUS HETEROHIOCHI*. AN ORGANISM CAUSING SPOILAGE OF JAPANESE RICE WINE (SAKE).
A. L. Demain, E. L. Rickes, D. Hendlin and E. C. Barnes, Merck & Co.

4:00—197. DEFROST TEMPERATURES OF SOME PREPARED FROZEN FOODS AND THE EFFECT OF DEFROST CONDITIONS ON MICROBIOLOGICAL POPULATIONS.
M. J. Fanelli and M. F. Gunderson, Campbell Soup Co.

4:20—198. ACTIVITY OF A PSYCHROPHILE AND ITS CELL-FREE ENZYMES ON CERTAIN COMPONENTS OF FROZEN MEAT PIES.
A. C. Peterson and M. F. Gunderson, Campbell Soup Co.

4:40—199. ACTION OF ANTHOCYANIN PIGMENTS AND RELATED COMPOUNDS ON GROWTH OF CERTAIN MICROORGANISMS.
J. J. Powers, D. Somaatmadja, D. E. Pratt and M. K. Hamdy, Univ. of Georgia.

5:00—200. IN VITRO EFFECTS OF CHLORTETRACYCLINE ON BACTERIA INDIGENOUS TO GULF SHRIMP AND OYSTERS.
Arthur F. Novak, K. G. Stolzle and Ernest A. Fieger, Louisianna State University.

5:20—201. ANALYSIS OF HEADSPACE GASES IN CANNED GOODS BY GAS CHROMATOGRAPHY.
D. C. Vosti, H. H. Hernandez and J. B. Strand, American Can Co.

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PACIFIC RIM FOOD CONFERENCE

List of Events

Headquarters: Princess Kaiulani Hotel, Honolulu

FRIDAY, MAY 20, 1960
Orientation session by program chmn., R. M. Heinicke, Haw. Pine. Co., 9 a.m.
Technical tours of pineapple and sugar cane plantations and plants on Oahu, 9:30 a.m.—4:30 p.m.

SATURDAY, MAY 21, 1960
Technical tour of tropical fruit production on Hilo, 9 a.m.—4:30 p.m. (by airplane to Hilo, a.m.)

SUNDAY, MAY 22, 1960
Sightseeing trip, 8:30 a.m. Ends at Kailua village.

MONDAY, MAY 23, 1960
Technical tour of coffee plantation and processing plant, Hilo 9-3. (Return to Honolulu, 3 p.m.)

TUESDAY, MAY 24, 1960
Technical sessions, Princess Kaiulani Hotel, Honolulu, 8:30-11:30 a.m.
Tropical fruits, nuts, coffee, cereals
Technical sessions, 1:30-4:30 p.m.
Tropical fruits & products
Poultry meats
Banquet, evening, Princess Kaiulani Hotel

WEDNESDAY, MAY 25, 1960
Technical sessions, Princess Kaiulani Hotel, 8:30-11:30 a.m.
Tropical fruit & spice products
Fish and meat products
Plenary session, 1:15-4:30 p.m.: Discussions of transport, storage, trade barriers, increasing Asian food production and processing
Flight to Mainland, p.m.

THURSDAY, MAY 26, 1960 (Optional Continuation of Hawaiian Conference). Trip to Kauai Island, via air.

FRIDAY, May 27, 1960
Kauai events during day. Return to Honolulu by air, p.m.

SATURDAY, MAY 28, 1960
Cruise to Pearl Harbor from Kewalo Basin, and return, 1 to 5 p.m.

SUNDAY, MAY 29, 1960
Return to Mainland U.S.A. by air p.m.

Program

PACIFIC RIM FOOD CONFERENCE

Headquarters: Princess Kaiulani Hotel, Honolulu, Hawaii

MONDAY—May 23

9:00 A.M. - 3:00 P.M.—Technical tour of coffee plantation and processing plant on Hilo.

TUESDAY MORNING—May 24

Concurrent Technical Sessions. Princess Kaiulani Hotel

Section A—TROPICAL FRUITS, NUTS AND COFFEE. Chairman: I. J. Hutchings, President-Elect, I.F.T.

8:30—MANGOES.
Discussion Leader: H. Kamemoto, University of Hawaii (Hawaii).

9:15—TROPICAL NUTS.
Discussion Leader: E. H. Beavens, Fruit and Vegetable Chem. Lab., U.S. Dept. Agric. (California).

10:15—PINEAPPLES.
Discussion Leader: R. L. Cushing, Pineapple Research Institute (Hawaii).

11:00—COFFEE.
Discussion Leader: F. Mehrlich, Quartermaster Food and Container Institute (Illinois).

Section B—CEREALS. Chairman: J. W. Pence, Western Regional Lab., U. S. D. A.

8:30—BULGER WHEAT AND ITS EXPORT POTENTIAL FOR THE FAR EAST.
Discussion Leader: William L. Haley, Fisher Flouring Mills, Seattle, Washington.

9:15—WHEAT GLUTEN, A PROTEIN CONCENTRATE FOR FOOD USE.
Discussion Leader: Dr. Rohland S. Shumard, Hercules Powder Co. (Delaware).

10:00—PROCESSED SOYA PROTEIN PRODUCTS FOR ENRICHMENT OF CEREALS.
Speaker to be announced.

10:45—INDIGENOUS CEREALS AS PROTEIN SOURCES FOR PEOPLE OF RIM COUNTRIES.
Speaker to be announced.

TUESDAY AFTERNOON—May 24

Section A—TROPICAL FRUITS AND FRUIT PRODUCTS. Chairman: G. E. Felton, Hawaiian Pineapple Co. (Hawaii).

1:15—ACERALA CHERRIES.
Discussion Leader: To be announced.

2:00—GUAVA.
Discussion Leader: Frank Boyle, Hawaiian Pineapple Co. (Hawaii).

3:00—PASSION FRUIT.
Discussion Leader: J. R. Vickery, Comm. Sci. Ind. Res. Organ. (Australia).

4:00—PAPAYA.
Discussion Leader: W. B. Storey, University of California, Riverside (California).

Section B—POULTRY MEAT. Chairman: G. F. Stewart, Univ. of Calif., Davis (California).

1:15 - 4:00—TECHNICAL AND ECONOMIC PROBLEMS OF INCREASING TRADE IN POULTRY MEAT AMONG RIM COUNTRIES.—PANEL
J. C. Abbott, Food and Agric. Organ., United Nations (Rome).
S. Goto, Goto Hatchery (Japan).
C. Carpenter, Carpenter Associates (California).
J. R. Vickery, Comm. Sci. Ind. Res. Organ. (Australia).
H. Lineweaver, *Moderator*, Western Regional Laboratory, U.S. Dept. Agric. (California).

WEDNESDAY MORNING—May 25

Section A—TROPICAL FRUIT AND SPICE PRODUCTS. Chairman: W. T. Pentzer, Agric. Marketing Service, U.S. D. A. (Washington, D. C.).

8:30—LITCHI.
Discussion Leader: Y. B. Goto, University of Hawaii (Hawaii).

9:15—OTHER TROPICAL PLANT PRODUCTS.—PANEL.
Y. B. Goto, *Moderator*, University of Hawaii (Hawaii).

10:15—CITRUS PRODUCTS.
Discussion Leader: K. Hirano, Canner's Assoc. (Japan).

11:00—PEPPER AND OTHER SPICES.
Discussion Leader: R. H. Vaughn, University of California, Davis (California).

Section B—FISH AND MEAT PRODUCTS. Chairman: H. Lineweaver, Western Regional Lab., U.S. D. A. (California).

8:30—FISH.
Discussion Leaders: I. Osakaba, Tokyo University of Fisheries (Japan). A. G. Van Veen, Food and Agric. Organ., United Nations (Rome.)

10:00—TECHNICAL AND ECONOMIC PROBLEMS OF INCREASING TRADE IN BEEF, LAMB, AND PORK PRODUCTS.—PANEL.
M. Fujimaki, University of Tokyo (Japan).
G. L. Mehren, University of California, Berkeley (California).
J. C. Abbott, Food and Agric. Organ., United Nations (Rome).
J. R. Vickery, *Moderator*, Comm. Sci. Ind. Res. Organ. (Australia).

WEDNESDAY AFTERNOON—May 5

Plenary Session

Chairman: R. B. Wakefield, President, I.F.T.

1:15—GENERAL TRANSPORTATION AND STORAGE PROBLEMS.
Discussion Leader: W. T. Pentzer, Agric. Marketing Service, U.S. D. A. (Washington, D. C.).

2:00—INCREASING FOOD PRODUCTION AND PROCESSING IN ASIAN COUNTRIES. PANEL.
J. C. Abbott, Food and Agric. Organ, United Nations (Rome).
A. G. Van Veen, Food and Agric. Organ., United Nations (Rome).

3:00—TRADE BARRIERS.
Discussion Leader: G. L. Mehren, University of California, Berkeley (California).

4:00—CONFERENCE SUMMATION.
Discussion Leaders: W. A. Gortner, Pineapple Research Institute (Hawaii). G. F. Stewart, University of California, Davis (California).

(IFT SECTION . . . Page 22)

IFT Delegate's Guide to San Francisco

"Every true San Franciscan has one foot on a hill and the other in the past*"

SIGHTSEEING IN SAN FRANCISCO

BARBARY COAST, Jackson to Broadway, east of Stockton—night clubs. Area T.

BAY BRIDGE TERMINAL, First and Mission Sts.—buses to Berkeley and East Bay. Area Z.

BRIDGES—Golden Gate Bridge, connecting the city with the Redwood Empire to the north, and the Bay Bridge, joining it to the East Bay industrial and residential areas. Areas Y and Z.

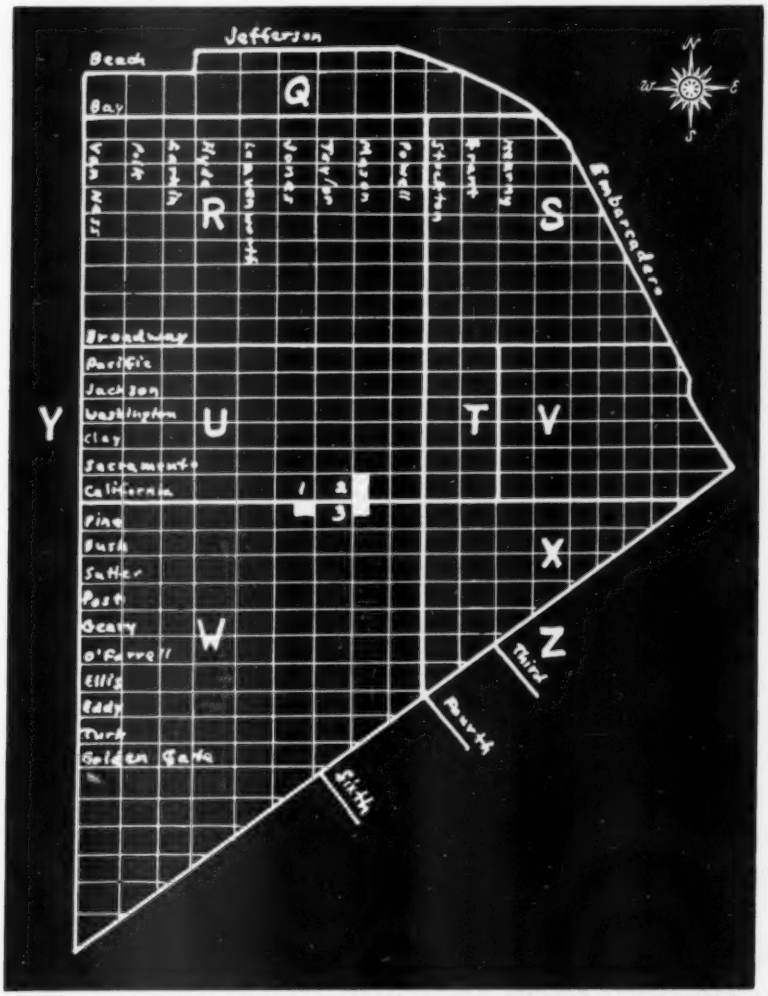
* From "The Pleasure of His Company."

CABLE CARS, running up Nob Hill East-West on California St. and North-South on Powell St. Aeras W and X.

CANDLESTICK PARK, Bayshore Freeway South—home of San Francisco Giants baseball club. Area Z.

CHINATOWN, Grant St. from Bush to Jackson — shops, restaurants, living quarters. Area T.

CIVIC CENTER, Golden Gate-Van Ness-Market, containing Opera House, Veterans Bldg., City Hall, Library, etc. Birthplace of United Nations. Area W.



PORTION OF DOWNTOWN SAN FRANCISCO is shown in this rough sketch. It has been divided into districts, to coincide with the accompanying information on these pages. The area shown is bordered on the north and east by San Francisco Bay. Other parts of the City, lying to the west and south, are designated by the code letters "Y" and "Z". In the center of the map, No. 1 is Masonic Memorial Temple, and Nos. 2 and 3 are the Fairmont and Mark Hopkins Hotels, all three atop Nob Hill.

COIT TOWER, Kearny & Greenwich Sts., memorial tower with fine view. Area S.

FERRY BUILDING, foot of Market St., housing World Trade Center. Area V.

FISHERMAN'S WHARF, Jefferson & Jones Sts.—shops, restaurants, boat mooring. Area Q.

FLEISHHACKER ZOO, at the ocean beach at Sloat Blvd. and the Great Highway. Area Y.

GOLDEN GATE PARK, west side of the city between Fulton and Lincoln and extending from Baker St. to the ocean. Contains Kezar Stadium, Steinhart Aquarium, California Academy of Sciences, Morrison Planetarium, De Young Memorial Museum of Art, Oriental Tea Garden, Conservatory and Arboretum, etc. Area Y.

HOTELS: See separate list.

LATIN QUARTER, Kearny to Mason, between Broadway and Lombard, night clubs. Areas R and S.

LINCOLN PARK, west end of California St., site of municipal golf course, Calif. Palace of the Legion of Honor. Area Y.

MISSION DOLORES, 17th and Dolores Sts.—Spanish mission erected in 1776. Area Z.

NIGHT CLUBS: See separate list.

POST OFFICE, 7th and Mission Sts. Area Z.

PRESIDIO, at Golden Gate approaches —site of old Spanish adobe built in 1776 when San Francisco was founded. Area Y.

RESTAURANTS: See separate list.

THEATERS: See separate list.

UNION SQUARE, Post-Geary-Powell-Stockton — center of shopping section. Area W.

YACHT CLUBS, Marina Blvd., Fillmore to Baker Sts. Areas Q and Y.

SAN FRANCISCO THEATERS

San Francisco has four homes for legitimate theater productions, musicals, etc. These include:

ALCAZAR, 260 O'Farrell St., area W, DO 2-3636.

CURRAN, 445 Geary St., area W, OR 3-4400.

GEARY, 415 Geary St., area W, OR 3-6440.

OPERA HOUSE, Van Ness & Grove, area Y, UN 1-9200.

In addition, there are a number of Little Theaters, some employing professional talent, some approaching top professional skill. Among these are:

ACADEMY OF INTEGRAL ARTS, 678 Turk St., area W, PR 5-9819.

IFT ANNUAL MEETING

BELLA PACIFICA (GOLDEN HIND), 529 Pacific Ave., area V, EX 7-6673.

BELLA UNION (INTERPLAYERS), 825 Kearney St., area V, SU 1-9909.

ENCORE (WORKSHOP), 430 Mason St., area W, EX 7-3195.

MARINES' MEMORIAL (WORKSHOP), 609 Sutter, area W, OR 3-6672.

OPERA RING, 123 So. Van Ness Ave., area Z, UN 1-1208.

PLAYHOUSE, Beach & Hyde Sts., aera Q, PR 5-4426.

SAN FRANCISCO RESTAURANTS

Type: Code letters for the various major types are as follows:

A—American	G—German
B—Seafoods	I —Italian
C—Chinese	J —Japanese
D—Scandinavian	K—Kosher
E —English	L—Latin
F —French	M—Miscellaneous

Location: The accompanying map of a portion of San Francisco is divided into districts. Each eating place is coded to indicate the district in which it is shown.

Price: Where available, a figure rounded to the nearest dollar is provided, to show the minimum cost of a meal consisting of soup or salad, entree and vegetables, beverage and dessert. Where prices are a la carte, an estimated total of the above items has been used.

ALOUETTE, 1121 Polk St., F type, W area, $4 minimum, closed Mondays, GR 4-2166.

AMELIO'S, 1630 Powell St., I type, Q area, $5 minimum, reservations required. SU 1-9643.

ALEXIS' TANGIER, 1200 California St., M type, U area, $6 minimum, closed Sunday and Monday, TU 5-6400.

ALFRED'S, 886 Broadway, I type, R area, $4 minimum, SU 1-7058.

ADOLPH'S, 641 Vallejo St., I type, S area, $3 minimum, closed Monday, EX 2-6333.

BARDELLI'S, 243 O'Farrell St., I type, W area, $3 minimum, YU 2-0243.

BLUE FOX, 659 Merchant, F type, V area, $4 minimum, DO 2-9316.

BERNSTEIN'S FISH GROTTO, 123 Powell St., B type, W area, $3 minimum, closed Sunday, GR 4-0400.

CLIFF HOUSE, 1090 Pt. Lobos, A type, Y area, $3 minimum, SK 1-7220.

CATHAY HOUSE, 718 California St., C type, T area, $2 minimum, YU 2-3388.

CASTAGNOLA'S, Jefferson & Jones Sts., B type, Q area, $3 minimum, PR 6-5015.

DOMINO CLUB, 25 Trinity Place, (opposite 11 Sutter), A type, X area, $4 minimum, EX 2-5579.

DES ALPES, 732 Broadway, (Basque) F type, R area, closed Monday, GA 1-9909.

DEL VECCHIO'S, 391 Broadway, I type, V area, $4 minimum, YU 2-3505.

DORO'S, 714 Montgomery, I type, V area, $4 minimum, EX 7-6822.

DI MAGGIO'S, Fisherman's Wharf, B type, Q area, $4 minimum, OR 3-2266.

EXPOSITION FISH GROTTO, 160 Jefferson, B type, S area, $4 minimum, OR 3-9565.

ERNIE'S, 847 Montgomery, F type, V area, $6 minimum, EX 7-5969.

EL SOMBRERO, 5800 Geary Blvd., L type, Y area, $3 minimum, closed Monday, EV 6-9661.

FAR EAST CAFE, 631 Grant Ave., C type, T area, $3 minimum, closed Wednesday, YU 2-3245.

FLEUR DE LYS, 777 Sutter St., F type, W area, $5 minimum, closed Sunday and Monday, OR 3-7779.

FIOR D'ITALIA, 621 Union St., I type, U area, $5 minimum, YU 6-1886.

FISHERMAN'S GROTTO, #9 Fisherman's Wharf, B type, Q area, $4 minimum, OR 3-7025.

FRANCISCAN RESTAURANT, Fisherman's Wharf, B type, Q area, $3 minimum, DO 2-7733.

GRISON'S CHICKEN, Van Ness at Pacific, A type, U area, $3 minimum, closed Monday, TU 5-2050.

GRISON'S STEAK, Van Ness at Pacific, A type, U area, $4 minimum, closed Tuesday, OR 3-1888.

HOUSE OF PRIME RIB, 1906 Van Ness, E type, U area, $4 minimum, TU 5-4605.

HENRY'S FASHION, Market St. at Davis, F type, X area, $4 minimum, closed Sunday, SU 1-8485.

HOUSE OF LEBANON, 124 Geary St., M type, X area, $4 minimum, closed Sunday, DO 2-3417.

IRON HORSE, 19 Maiden Lane, A type, X area, $3 minimum, closed Sunday, DO 2-1349.

INDIA HOUSE, 629 Washington, M type, V area, $4 minimum, closed Sunday, EX 2-0744.

JACK'S RESTAURANT, 615 Sacramento St., F type, V area, $4 minimum, GA 1-9854.

JADE PALACE, 842 Grant Ave., C type, T area, $2 minimum, DO 2-9619.

JULIUS CASTLE, 302 Greenwich St., I type, S area, $5 minimum, DO 2-3042.

KAN'S, 708 Grant Ave., C type, T area, $4 minimum, YU 2-2388. Reservations only for eight or more, others first come—first served.

KUO WAH, 950 Grant Ave., C type, T area, $2 minimum, YU 2-1851.

LE BOEUF, 545 Washington St., A type, S area, $4 minimum, GA 1-2914.

LEOPARD CAFE, 140 Front St., A type, X area, $5 minimum, EX 2-3348.

LEW LEHR'S, 3345 Steiner St., A type, Y area, $4 minimum, WE 1-0575.

LEFTY O'DOUL'S, 333 Geary St., G type, W area, YU 2-8900.

LAMPS OF CHINA, 521 Grant Ave., C type, T area, $2 minimum, DO 2-9779.

LE TRIANON, 242 O'Farrell, F type, W area, $4 minimum, closed Sunday, YU 2-9353.

LITTLE INDIA, 40 Jones, M Type, W area, $4 minimum, MA 1-7789.

LITTLE BIT OF SWEDEN, 572 O'Farrell St., D type, W area, $3 minimum, DA 3-8922 or GR 4-9767.

MARTIN'S ESPANOL, 674 Broadway, L type, S area, $4 minimum, GA 1-9412.

MARCONI'S, 122 Battery, I type, X area, $4 minimum, Sunday closed, EX 2-7268.

MINGEI-YA JAPANESE RESTAURANT, 2033 Union St., J type, Y area, $3 minimum, closed Monday, JO 7-2553.

NAM YUEN, 740 Washington St., C type, T area, $2 minimum, closed Monday, SU 1-5636.

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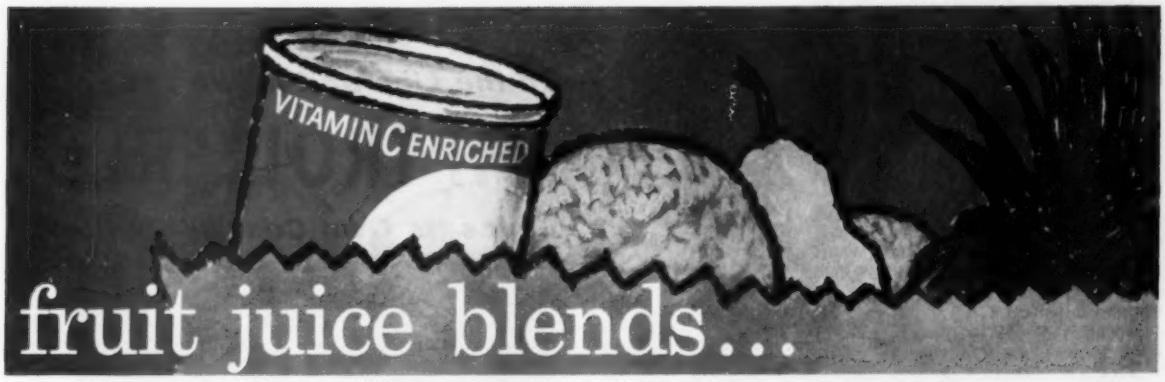

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NORMANDIE FRENCH RESTAURANT, 1326 Powell St., F type, U area, $3 minimum, GA 1-2722.

NIKKO SUKIYAKI, 1450 Van Ness Ave., J type, W area, $3 minimum, GR 4-7722.

OMAR KHAYYAM'S, 196 O'Farrell, M type, W area, $4 minimum, SU 1-1010.

OLD POODLE DOG, 65 Post St., F type, X area, $3 minimum, EX 2-9958.

OWL 'N' TURTLE, 615 Washington St., F type, V area, $4 minimum, EX 7-0335.

ORESTE'S, 118 Jones St., I type, W area, $4 minimum, GR 4-5811.

PARIS-LOUVRE, 808 Pacific, F type, U area, $3 minimum, closed Monday and Tuesday, GA 1-5157.

PAOLI'S, California at Montgomery, I type, V area, $4 minimum, SU 1-7115.

RATHSKELLER, 600 Turk St., G type, W area, $2 minimum, PR 5-3188.

A. SABELLA'S, Fisherman's Wharf, B type, S area, $3 minimum, GR 4-8770.

SHANGHAI LOW, 532 Grant Ave., C type, T area, $3 minimum, closed Tuesday, YU 2-2008.

SHADOWS, 1349 Montgomery, G type, S area, $3 minimum, EX 2-9823.

SHANGHAI LIL, 1020 Kearny St., C type, T area, $3 minimum, closed Sunday, SU 1-3400.

SCHROEDER'S CAFE, 240 Front St., G type, V area, $2 minimum, closed Saturday and Sunday, GA 1-4778.

SINALOA, 1416 Powell St., L type, R area, $3 minimum, closed Wednesday, SU 1-9624.

A. SABELLA'S GROTTO, 2770 Taylor, B type, Q area, $3 minimum, GA 4-9562.

TRADER VIC'S, 20 Cosmo Place, M type, W area, $4 minimum, reservations required, PR 6-2232.

TOKYO SUKIYAKI, 255 Jefferson, J type, S area, $3 minimum, PR 5-9030.

TAO YUAN, 823 Clay St., C type, T area, $2 minimum, YU 2-0701.

TAJ OF INDIA, 825 Pacific, M type, U area, $3 minimum, EX 2-0089.

TARANTINO'S, Fisherman's Wharf, B type, Q area, $4 minimum, PR 5-5600.

VENETO'S, Bay at Mason, I type, R area, $3 minimum, GA 1-9711.

VANESSI'S, 498 Broadway, I type, V area, $4 minimum, GA 1-0890.

YAMATO SUKIYAKI, 717 California St., J type, X area, EX 7-3456.

SAN FRANCISCO NIGHT CLUBS

San Francisco offers IFT visitors a variety of night club entertainment, ranging from complete floor shows to specialty acts to vocal and instrumental music.

Here is a list of some of the night spots and bars which provide entertainment:

ANN'S 440 CLUB, 440 Broadway, area S.

BIMBO'S 365 CLUB, Columbus & Chestnut, area R.

BLACKHAWK, 200 Hyde St., area W.

BOCCE BALL, 262 Broadway, area S.

CELLAR, 576 Green St., area S.

CHEZ PAREE, 150 Mason, area W.

CHINESE SKY ROOM, 605 Pine St., area T.

EXECUTIVE SUITE, 153 California St., area X.

FINOCCHIO'S, 506 Broadway, area S.

FORBIDDEN CITY, 363 Sutter St., area X.

GAY NINETIES, 345 Broadway, area V.

HANGOVER CLUB, 729 Bush St., area W.

HUNGRY I, 559 Jackson St., area V.

JAZZ WORKSHOP, 473 Broadway, area V.

KEWPIE DOLL, Columbus & Broadway, area R.

MOULIN ROUGE, 412 Broadway, area S.

ON THE LEVEE, 987 Embarcadero, area S.

PURPLE ONION, 140 Columbus Ave., area V.

RED GARTER, 670 Broadway, area S.

SINALOA, 1416 Powell St., area U.

SURFRIDERS, 2741 Taylor St., area Q.

SAN FRANCISCO HOTELS

San Francisco has many fine hotels. A selected list of some of the major ones, with addresses and phone numbers, is as follows:

CALIFORNIAN, Taylor & O'Farrell, area W, TU 5-2500.

CANTERBURY, 750 Sutter, area W, GR 4-6464.

CLIFT, Geary & Taylor, area W, PR 5-4700.

FAIRMONT, California & Mason, area U, DO 2-8800.

HUNTINGTON 1075 California, area U, GR 4-5400.

JACK TAR, Van Ness & Geary, area W, PR 6-8200.

MANX, Powell & O'Farrell, area W, GA 1-7070.

MARK HOPKINS, California & Mason, area W, EX 2-3434.

MAURICE, 761 Post, area W, OR 3-6040.

PLAZA, Post & Stockton, area W, SU 1-7200.

RICHELIEU, Van Ness & Geary, area W, OR 3-4711.

ST. FRANCIS, Powell & Geary, area W, EX 7-7000.

SHERATON-PALACE, Market & New Montgomery, area Z, EX 2-8600.

SIR FRANCIS DRAKE, Sutter & Powell, area W, EX 2-7755.

WHITCOMB, 1231 Market St., area Z, UN 1-9600.

MOTELS: Many, though not all, are on Vallejo St., area R.

SAN FRANCISCO ART EXHIBITS

San Francisco has three major public art museums, plus numerous smaller galleries. The three public institutions are:

CALIF. PALACE OF THE LEGION OF HONOR, Lincoln Park, 34th Ave. & El Camino del Mar, area Y, BA 1-5610.

M.H.DE YOUNG MEMORIAL MUSEUM, Golden Gate Park, 10th Ave. & Fell St., area Y, BA 1-2067.

S.F. MUSEUM OF ART, Veterans' Building, McAllister & Van Ness, area W, HE 1-2040.

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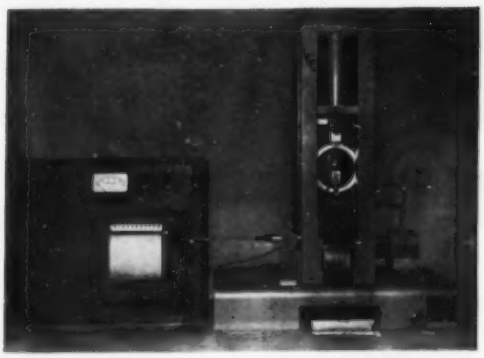

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Bay Area Research Facilities

One of the magnets expected to draw several thousand delegates to the national meeting of Institute of Food Technologists, to be held in San Francisco May 15-19, is the concentration of food science establishments found in California's bay area.

Visitors to the region will have an opportunity to visit such centers of research, both by means of organized tours scheduled for the final day of the meeting, and also individually at times which suit their convenience.

Among facilities to be found in San Francisco and the surrounding cities are the laboratories of . . .

Food manufacturing companies, such as California Packing Corp. at San Francisco, Libby, McNeill & Libby at Sunnyvale, Gerber Products Co. at Oakland, C & H Sugar Refining Corp. at Crockett, Richmond-Chase Co. and Tri-Valley Packing Association at San Jose.

Universities, including the extensive operations of the University of California at Davis and at Berkeley, and Stanford Research Institute at Menlo Park.

Industry suppliers, including American Can Co. at San Francisco, Continental Can Co. at Hayward, Food Machinery & Chemical Corp. and Ac'cent International at San Jose, Morton Salt Co. at Burlingame.

Government and association facilities, among them the Western Utilization Research Laboratory of U. S. Department of Agriculture at Albany, and the western branch laboratory of National Canners Association at Berkeley.

In addition, delegates attending the Pacific Rim Food Conference, which follows immediately after at Honolulu, Hawaii, will have opportunity to inspect the new research facilities of University of Hawaii, and the longer-established laboratories of the pineapple and sugar industries.

Details about some of the facilities on the visiting list for IFT in May are as follows:

National Canners Assn.

Location: 1950—6th St., Berkeley 10. Phone THornwall 3-9762.

Technology: Safe processes for canned foods, bacterial heat resistance, canned food spoilage, water conservation, methods for cannery waste disposal, objective tests for food standards, analytical methods, nutrition, sanitation.

Facilities: Laboratories for research in chemistry, bacteriology, water re-use, cannery waste disposal; canning equipment, heat penetration and thermal death time equipment, refrigerator, large incubators, machine shop, library-conference room.

Technologists: Charles T. Townsend, assoc. director; Walter A. Mercer, head dept. of waste disposal and water re-use, also program coordinator; Frank C. Lamb, head chemistry dept.; R. N. Getchell, head processing dept.; William E. Perkins, head bacteriology dept.; Edwin S. Doyle, head sanitation dept.; Norman A. Olson, head microabalytical dept.

U.S. Dept. of Agriculture

Location: 800 Buchanan St., Albany 10. Phone LAnscape 5-2244.

Technology: Utilization of crops, including food uses. Basic composition and processing studies are conducted on fruits, vegetables, poultry, eggs, wheat, rice and sugar beets.

Facilities: Western Regional Research Laboratory — extensive laboratory and pilot plant facilities in Albany, smaller laboratories in Pasadena, and in Prosser and Puyallup, Wash.

Technologists: M. J. Copley, director; W. B. Van Arsdel, asst. director; W. F. Talburt, chief, fruit & veg. lab.; Hans Lineweaver, chief, poultry prods. lab.; G. O. Kohler, chief, field crops lab.; W. D. Ramage, chief, engineering & devel. lab.; E. A. Beavens, in charge fruit & veg. chemistry lab, Pasadena; A. M. Neubert, in charge fruit & veg. prods. lab., Prosser.

American Can Co.

Location: 3rd & 20th Streets, San Francisco. Phone HEmlock 1-6875.

Technology: Technical assistance to packers in packaging new products in metal cans, including pressurized containers.

Facilities: Western Area Laboratory—Canning kitchen and facilities for packing pressurized containers; chemical and bacteriological labs integrated with labs for study of can manufacture and for evaluating can-making materials.

Technologists: senior chemists: A. F. Bailey, G. V. Leipzig, D. S. Townsley, M. O. Winkler, D. C. Vosti, S. J. Hotchner, senior bacteriologist: F. R. LeBlanc.

California & Hawaiian Sugar Refining Corp., Ltd.

Location: 215 Market Street, San Francisco. Phone EXbrook 2-7400.

Technology: Improvement and development of cane sugar refining processes and equipment.

Facilities: A lab is maintained at the refinery, Crockett, Calif. This is equipped for physical, chemical, and microbiological analyses of sugars and related materials, and for plant and laboratory research activities.

Technologists: P. R. Davis, tech.; W. D. Heath, tech.; W. Ray Junk, mgr. of prod. development; C. E. Kean, tech.; Philip F. Meads, tech. dir.; R. S. Patterson, tech.; Neil L. Pennington, chief chem.-res.; R. N. Prince, chief chem.-control.

Continental Can Company, Inc.

Location: 685 "A" Street (P. O. Box 178) Hayward. Phone ELgin 1-6912.

Technology: Provide research services directed to packaging foods, beverages, industrial products and other items in metal containers. Aid development of new methods and equipment for preparing, packaging, and processing foods.

Facilities: Experimental canning room; equipment for heat penetration studies, incubation storage, can spoilage examination, micro-scopical studies, water and gas analysis, determination of pH, Brix, and other chemical and physical tests.

Technologists: L. G. Petree, div. mgr.; D. S. Brownlee, dist. chief; R. N. Berry, E. L. Meyers, D. R. Klarich, J. M. Voak —food techs.

Food Machinery and Chemical Corporation

Location: 333 W. Julian Street, San Jose. Phone CYpress 3-6136.

Technology: Mechanical and process research in fruit and vegetable preparation, and in the processing of cereals and cereal products. Food processing unit operation development.

Facilities: Canning Machinery Division —20,000 square feet embracing labs and pilot plant. Laboratories include chemical and bacteriology. Pilot plant embraces equipment for freezing and thermal processing of canned and bulk foods.

Technologists: Paul C. Wilbur, FMC vice pres., dir. of res. and development; F. D. Hickey, mgr. of res.; H. W. Adams, res. chem.; E. S. Yawger and N. Pappas, bacteriologists; K. Hirahara and J. Moger, chem. engrs.; W. W. Owen, chem.

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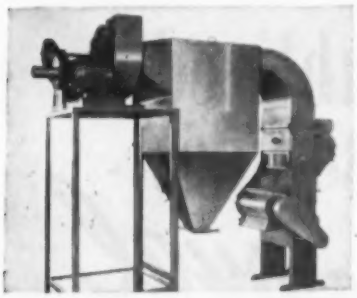

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Canned Spanish Food Is Hit

Consumers in 39 states get the message from Garcia. Specialty packs sell well

By Porter V. Taylor

Restaurants at Tampa, Florida, have long been world famous for their Spanish bean soup. For the tourist, no trip to Tampa is considered complete without a meal at one of the Spanish-food eating places.

Therefore, it is not surprising that Garcia Canning Co., original packer of "World Famous Spanish Bean Soup" is located in Tampa.

What may seem unusual is the success of the food with non-Spanish consumers. Some 90% of the company's products are sold through retail chain store outlets throughout the southeastern United States, with additional sales outlets being found in at least 38 states.

"Spanish people," says Ernie Skaates, president of the company, "account for a very small percentage of our sales, because every Spanish family has a special recipe and prefers its own cooking to canned convenience foods. On the other hand, the average consumer has only tried the products as we make them or in a public restaurant. Therefore, they make a ready market. And our main selling promotions are aimed at reaching the everyday consumer with impulse displays in retail stores."

Garcia product labels are carefully planned to increase impulse sales by combining colorful eye-catching designs with a prominent description of contents of the can. All labels are in multicolor with most of them showing photographs of the ingredients. Labels also list the ingredients and feature the "heat and eat" convenience of preparation.

The labels now in use are supplied by U.S. Printing & Litho. Co. Designs are constantly studied for improvement, and changes are made in accordance with better selling features. For example, the company reluctantly discontinued an attractive bean soup label picturing a toreador and bull because it had been observed that grocery stock boys frequently faced out the picture side exclusively, thereby hiding the larger print which identified the product.

ERNIE SKAATES and his charming wife take us on a tour of their busy specialty cannery in the pictures on these pages.

GARBANZOS, principal raw material for the firm's Spanish bean soup, are cleaned with this Ferrell Clipper machine, after being received from Mexico in 110-pound bags.

BLANCHING is another important item in garbanzo processing. The step is carried on in this A. K. Robins unit, and requires three minutes at 190° F.

Selling by Hard Work

Mr. Skaates spends a great deal of time visiting retail store managers to follow up on the sales work done by his brokers. He is a firm believer in the advantages of mass display and special retail promotions.

Actual distribution is handled through the Tampa firm Bonacker Bros., exclusive sales agent for Garcia products, selling to such chain stores as A&P, Kroger, Grand Union, Publix, Food Fair, Colonial, Winn-Dixie and others. Bonacker Bros. has appointed agents in other cities such as Bonacker & Leigh in Miami, L. T. Acosta Company in Jacksonville, and C. B. Ponder Company in Atlanta. Warehouse and distribution facilities of the brokers are used almost exclusively by Garcia, with only small quantities of the products being stored at the cannery.

"When we started in business thirteen years ago," said Mr. Skaates, "we contacted Bonacker Bros. because it was the largest firm in Tampa. Its officials saw the possibilities at once."

"We believed then and still believe," continued Mr. Skaates, "that the best way for a small canner to get ahead is to come out with a line that will get a share of the housewife's impulse buying without having to compete with a product already being offered by the giant canning companies. According to food marketing magazines, one-third of the merchandise now on store shelves was not even in existence ten years ago."

Most of the recipes for the products the company now makes were worked up from those prepared by the Garcia family and the Garcia restaurants. The combination of grocery know-how by Mr. Skaates and food preparation know-how by Mrs. Skaates has resulted in an efficient, successful operation from raw materials to the consumer.

Raw Material from Mexico

Ingredients of the Spanish bean soup consist of dried garbanzos (chick peas), diced potatoes, diced cured ham, salt, bacon, dehydrated onions,

garlic, and chorizos (Spanish sausage).

The garbanzos are bought direct from Mexican growers, arriving at the cannery in 110-pound bags. The first step in processing is to run the chick peas through a Ferrell Clipper cleaner. This separates most of the chaff, sticks, dust, gravel and other foreign matter from the raw material.

The garbanzos are then blanched for three minutes at 190° in an A. K. Robins batch-type unit. After blanching they are cooled by running water, while held in the basket-type strainer which is used to lift them out of the blancher. Blanching expels gases and eliminates a certain earthy flavor.

After blanching, a Robins picking table is used for further inspection, workers picking out culls or any foreign matter missed by the cleaner. After this inspection, the garbanzos are again placed in water, where they are soaked for eight hours at room temperature.

Precooking and Processing

Potatoes which have been diced and placed in cold storage, diced cured ham, diced bacon, seasonings, and small slices of chorizos are now mixed with the garbanzos and cooked in soup kettles for 80 minutes. Lee Metal Products kettles are used, with Lightnin agitators by Mixing Equipment Co.

A CRCO universal filler is used to fill cans with full strength soup. Containers are double-seamed on Canco equipment, labels are applied with a Chisholm-Ryder machine, and the finished product is put into shipping containers by a Burt case-packer.

Handling Other Ingredients

The company makes its own chorizos because this sausage is normally available only in links two or three inches long. The short links cause a considerable amount of waste, since the sausage is sliced in thin pieces and end slices are not used. The Garcia company makes its own sausage in links about three feet long.

"This meant building our own smokehouse, having a 400-lb. capacity stainless steel meat mixer custom made, and buying our own raw materials," says Mr. Skaates. "But it not only saves money in the long run, but assures us of quality uniformity."

Another money-saving practice adopted by the company, according to its owners, is mixing of its own spices. This was formerly handled by a New York firm which packaged these materials according to the Garcia formula. Now spices are purchased in bulk from Wm. J. Stange Co., and mixed at the cannery.

The company still finds it economical to have others do certain routine jobs, however. Cases, for example, are made and printed by Kieckhefer, but are delivered to American Can Co. There empty tins are put into the shipping containers, and the latter are delivered to the Garcia plant.

Packing Chicken Soup

Chicken soup with vermicelli is another of the principal Garcia products. Hens in sizes from five to six pounds are cooked in steam jacketed kettles for four hours. Broth is drawn off and strained into another kettle. The chickens are removed and meat is taken from the bones by hand. The bone carcasses are re-cooked for another three hours, with broth again being drawn off and strained to get all possible flavor from the chickens.

Salt, onion powder, garlic powder, saffron and other seasonings are added to the broth. Vermicelli, which is made to the Garcia specifications by a large noodle manufacturer, is cooked and mixed with the broth and diced chicken meat. The cans are then sealed and labeled in the usual procedure. The company's promotion material guarantees buyers that its chicken soup has more chicken meat than is found in any other, regardless of brand or price.

Other products canned under the Garcia label are chicken and yellow rice, blackeyed peas, Great Northern beans, and spaghetti sauce with Italian sausage.

No canning is done for private label buyers.

Mr. Skaates serves as president, sales manager, and advertising manager. Cooperative advertising allowances are given to qualified retail outlets. The company also engages in some consumer advertising, particularly when introducing a new product or going into a new area. Slick reprints of newspaper ads are distributed to retail stores for use as shelf talkers.

Direct mail advertising is also used to sell to restaurants and hotels.

Denver Honaker holds the dual positions of general manager and production manager. Morris Dague is in charge of raw products.

Production from Old Recipes

The Garcia company was born during the World War II shortage period, and Mr. Skaates, the founder, had originally intended to become a sardine packer because of the lack of sardines in the retail grocery business he was operating at the time. However, after looking into the possibilities and consulting his wife, who is a member of the famous Garcia restaurant family, the decision was made to can Spanish bean soup instead.

MEAT MIXER of 400 lbs. capacity was built for Garcia to prepare material for the 3-foot chorizos, or Spanish sausage, the company makes as an ingredient in its Spanish soup.

CHORIZOS, after being prepared and smoked, are cut into thin slices by Mrs. Skaates. By making the sausages in 3-ft. lengths, the company avoids the many end cuts which result when 3-inch conventional chorizos are so used.

ENTRANCE END of the new Gerber glass-handling line at Rochester, New York. Cases move from pallet at right through magazine, flap-opener and feeder to unloader, after which the empty fibre moves off by conveyor to the left, while the jars enter the enclosed washer unit in the background. Equipment is designed for glass protection and labor conserving, as . . .

Gerber Speeds Glass Handling at Rochester

Michigan baby food firm installs California-designed integrated line at processing plant in New York State

By Robert G. Dyment

A new integrated glass line in use at the Rochester, N. Y., plant of Gerber Products Co., Fremont, Mich., has been designed and installed by the baby food firm's engineering research division at Oakland, Calif.

Originally, the equipment was expected to have three advantages over the more conventional method of operation formerly used at Rochester for this part of the glass-handling operation. First—and possibly most significant—the integrated equipment was expected to reduce glass damage. The second advantage was to be labor saving, and the third provision for higher line speeds.

Glass damage reduction is being accomplished through the more gentle handling of the empty jars during the case unloading, washing, single filing, filling and capping stages.

Labor saving has definitely been realized, since the new line requires only one operator whereas the former required three.

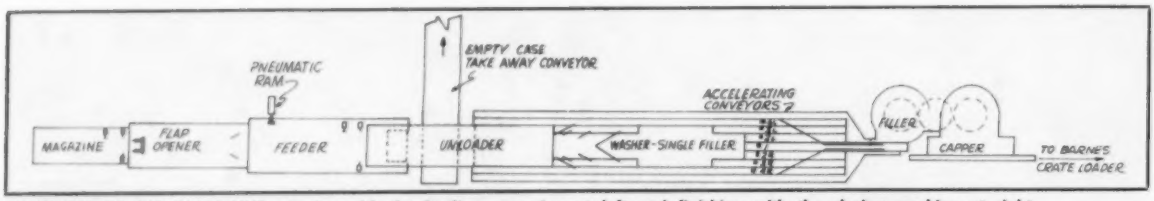
Higher Output Coming

As to higher line speeds, at this writing it is not possible to use the integrated equipment at or near its maximum capability. It will be possible to handle jars at speeds in excess of 1000 per minute when other parts of the overall operation are geared up to this high speed. At present, the average output of the line is in the neighborhood of 600 jars per minute.

The equipment involved in accomplishing the above consists of a magazine, a flap opener, a feeder, a case unloader, a washer, a single filer, a 25-pocket Girdler Votator piston filler and an Anchor Hocking capping machine. All of the individual components are driven by three hydraulic motors which are powered by one centralized Oilgear pumping unit. The three power units are coupled together through gear boxes and tubular shafts to insure synchronization of all components.

The sequence of operations (shown schematically in the accompanying flowsheet) is briefly as follows:

Cases of empty jars are placed on the magazine, which is essentially a



FLOWSHEET OF THE GLASS LINE, starting with the feeding magazine at left and finishing with the closing machine at right.

conveyor belt with a release mechanism at the exit end. The discharge device is timed to release one case for each carrier bar on the conveyor running through the flap opener. While passing through the latter, all flaps are spread by a series of swinging pins and air blasts.

Emergency Ejector

The flap opener discharges directly onto the feeder another conveyor belt with a release mechanism at the discharge end. At the point where the cases enter the feeder section, there is a pneumatic ram which automatically removes (a) any case that may have unopened flaps, or (b) one which contains an inverted jar, or (c) an over-accumulation of cases.

The last situation develops as a result of having the magazine, the flap opener and the feeder conveyor run a little faster than the unloader. The reason for the faster speed rate of the earlier units is to facilitate make up of the case that is occasionally rejected by the pneumatic ram because of a closed flap or an inverted jar. The rejected case would otherwise result in 24 jars of lost production.

At the discharge end of the feeder, the opened case is indexed and stops at the proper location for the unloader to remove the jars. Case and jars are then moved to the next stage where the emptied case moves away by conveyor, which takes it to the full-jar casing operation.

The unloader deposits its 4 x 6 single-layer pattern of jars on a platen that is moving through the washer section of the washer single filer.

Upside-Down Washer

The jars are plowed in rows of four into individual washer carriers from each side of the platen as it is moving through the washer section. The carriers which contain one jar each are rotated 360° in a vertical plane, upending the containers and then restoring them to upright positions.

While the jars are inverted, during their trip through the washer, they are cleaned both inside and out by high pressure hot water spray nozzles.

As they return to their original mouth-up position on the top side of the washer, they are diverted to two flat-top flighted chains. These chains are on the outside of the washer, and are separated from the platen by the carriers.

At this point, while the jars are on the outside conveyors, they are in two single files and require being brought together into one line before they can go into the filler. This is accomplished by plowing the containers across two accelerating conveyors on each side of the machine and merging the two flows into one single file on a center discharge conveyor.

Filler and Capper Feeders

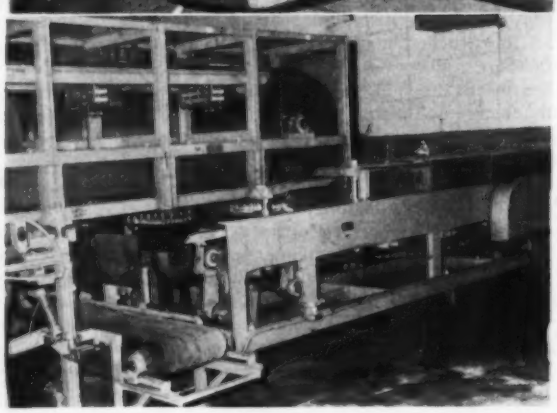
The single filer discharge conveyor feeds the jars to the Girdler Votator filler through a transfer star wheel. After filling, the jars are conveyed to the Anchor Hocking capper by a similar transfer star wheel device.

At all transfer points between the filler intake star and the capper discharge, the jar is kept under positive control. This is accomplished by having the star points overlap and making the actual transfer from one star to another take place where the pitch lines of the stars are tangent.

Throughout the integrated line, there are numerous timing mechanisms, limit switches and other protective devices which help to refine the line.

From the closing machine, the filled glass containers travel to the Barnes magnetic crate loader, and thence through the retorting, basket unloading, labeling, casing and case sealing which complete the operation.

JARS ARE HELD with plunger devices while empty case drops to takeaway belt. This is a close-up of the unloader indicated in the center of the flowsheet above.



ENCLOSED WASHER for empty jars is seen in this view. Containers are spun 360° on a vertical axis to make sure they are clean inside and out. End of empty-case takeaway belt is seen at lower left-hand corner of photograph. Jars move left to right.

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FOOD MERCHANDISING

24c Per Dozen Saving in Frozen Food Marketing

The total cost of packing, storing and shipping a dozen 10 oz. cartons of frozen foods is approximately 24c per dozen less than for a similar amount of canned foods. This was found to be the case in an operation fairly typical of the many plants of the Northwest.

With reference to three groups of cost—packing, storing and shipping—the largest saving has been in packing. There is a small saving in shipping frozen foods as compared with canned foods. However, the storage expense is larger for frozen foods than for canned foods because of the low temperature requirement.

Comparative cost calculations were based on the following package sizes and drained weights:

	Drained Weight
Peas	
fr.—10 oz.	10 oz
c.—#303	10.75 oz.
Cut Corn	
fr.—10 oz.	10 oz.
c.—#303	10.50 oz.
Cut Green Beans	
fr.—10 oz.	9. oz
c.—#303	9.50 oz.

The net weight of the frozen package was ½ oz. less for cut corn and green beans and ¾ oz. less for peas.

The comparative cost calculations showed that it cost less to pack, ship and store frozen items than canned items by the following amounts per dozen:

Peas	$0.2661
Cut Corn	$0.2366
Cut Green Beans	$0.2407

If the net contents of the frozen food package were identical to the drained weight of the #303 can, the cost to pack, store and ship for the three frozen products would be less than the canned by the following amounts per dozen:

Peas	$.2046
Cut Corn	$.2002
Green Beans	$1.907

—Study by Hubert Sandoz, controller, Pictsweet Foods Div., Stokely-Van Camp, Inc., Indianapolis, Ind.

Pouch Packaged Meals Boost Sales at N. Y. Juice Bar

Sales at a popular juice bar in New York's Grand Central Terminal recently skyrocketed. The reason—Menu-Pak meals. Customers are served piping hot meals in 3 to 4 minutes.

Whereas, formerly the highest priced item was 35c, now it is as high as 75c to 85c. This upgrading has brought the juice bar a new crop of customers interested in good quality food.

The meals served them are precooked entrees, frozen in individual Mylar-Polyethylene pouches. They are warmed in specially designed electronic heaters.

The operator of the juice bar reports a customer count of 96 persons per hour—or 12 customers every 3 minutes. This figure zooms even higher during holidays and vacation seasons.

—Wilson & Co., Chicago, Ill.

Bold, News-Filled Ads Will Sell Frozen Foods

It's discouraging, but true, that the average reader actually reads through barely one ad per magazine; hears no more than one out of 11 radio commercials. Competition for the reader's attention is pretty stiff. The one advantage the smart advertiser has is that his competition is working for him. By using the same old tired cliches in copy and art, the bulk of food advertisers make an outstanding ad stand out more sharply.

There's some excuse for dull advertising among ordinary food advertisers. After all, they operate in a world where superlatives and exaggerated claims take the place of true product differences. Even if you come up with a real competitive advantage, you can be sure your rivals will have matched it before the ink is dry on your printed ad. So the air is filled with "milder" and "more scrumptious," and the beautiful 4-color shots of layer cakes get higher and fluffier. Who can blame the poor housewife if she stops caring, let alone believing.

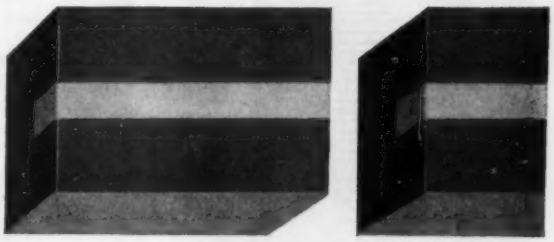
But the frozen food industry has none of these problems. It has real product distinctions and quality advantages to sell. Nothing can take the place of news as an ingredient in great advertising. And news is what frozen food has plenty of. Present that news in exciting, memorable ways and the frozen food business will go through the roof.

Frozen foods are a challenge to everything that's old and established. The industry can't voice that challenge in tiny mouse-like tones. It has to be bold and adventurous.

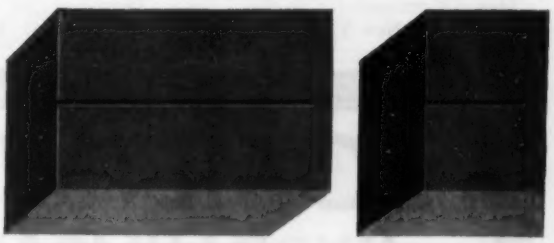
—Martin L. Smith, partner, Smith/Greenland Co., Inc., Advertising, at luncheon meeting, Eastern Frosted Foods Assn.

WHAT CASE SEALING METHOD IS RIGHT FOR YOUR PRODUCT?

AUTOMATIC TAPING?



AUTOMATIC GLUING?



OR GLUE AND TAPE?

Each of the two basic ways to seal cases has its advantages. One may be better for your product. But which — taping or gluing? Or a combination of both? *Now that the Standard-Knapp line includes a series of proven automatic tape sealing machines, Emhart is in an unusually sound position to help you decide.* Forty years experience in case sealing — thousands of installations to our credit — that's a background with value-to-you written all over it. Tell-all literature is yours for the asking. So is a visit from our nearest sales engineer.

Emhart Manufacturing Company
Portland, Connecticut
Standard-Knapp Packaging Equipment

EMHART

NEW EQUIPMENT/SUPPLIES

Beaded Can

DESCRIPTION: New can (303 x 406 open top) with a fully beaded body is available to canners for packing fruits and vegetables.

FEATURES: The beaded body construction increases panel resistance, reduces shipping and handling damage, and reduces denting and out-of-round containers.

MFR.: Continental Can Co., 100 East 42nd St., New York 17, N. Y.

Carton Sealing Process

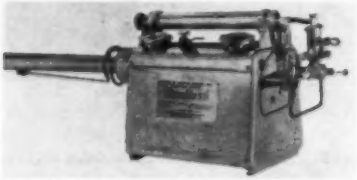
DESCRIPTION: The process involves the application of a specially-developed hot calking compound under the carton end flaps. Trade name: Calk-Seal.

FEATURES: The use of this process eliminates the need of inner and outer wrappings thus increasing packaging line speeds. It provides a positive, damage-proof seal.

MFR.: Packaging Corp. of America, Ohio Boxboard Div., Rittman, Ohio.

Insecticide Fog Generator

DESCRIPTION: This dispenser, designed for indoor applications and outdoors, produces a dense cloud of dry insecticide fog, without messy and dangerous residues. Trade name: Dyna-Fog "50".



FEATURES: There is little maintenance—it is powered by regular gasoline and has only one moving part. Easily portable—it weighs 16½ lbs. and is 52 inches long.

MFR.: Curtis Automotive Devices, Inc., P.O. Box 297-7, Westfield, Ind.

Dumping Unit

DESCRIPTION: A time and labor saving unit for lifting and dumping drums or bags. Trade name: Cesco Jr. Model DU.

FEATURES: It handles a variety of

SOMETHING NEW!!

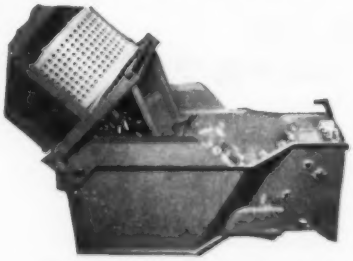
HYDRAULICALLY OPERATED

HORIZONTAL & VERTICAL CRATE UNLOADERS

...NO CAN DENTING...

FIVE MODELS TO CHOOSE FROM!

All of which are the most gentle and efficient machines for their purpose offered to the trade. All are adjustable to handle cans from 202 to 404 inclusive, including flats and squats. These extra heavy units unload cans from *all* retort crates and automatically feed them into *any make* Unscrambler with the greatest of gentleness YOU WILL NOT DENT CANS WITH ANY OF THESE UNLOADERS.



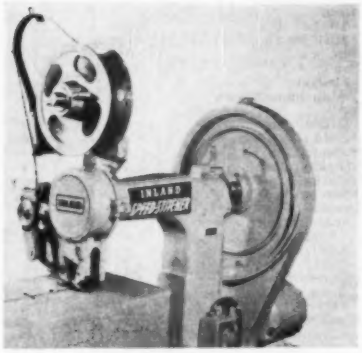
SHUTTLEWORTH, INC.
WARREN, IND.
PHONE 190

standard sized drums and bags. It is designed for low-cost batch loading of mixers, blenders, kettles, tanks, bins, and similar equipment.

MFR.: Conveyors and Dumpers, Inc., P.O. Box 567, West Caldwell, N. J.

Wide-Crown Stapler

DESCRIPTION: An electrically-driven stapler which forms staples with crowns up to 1⅜" wide. Trade name: Speed-Stitcher.



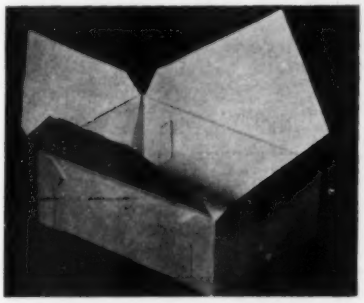
FEATURES: 12,500 staples are produced without reloading the 25 lb. coil spool. The stapler will staple through single- or double-wall corrugated, A, B or C flute; also fibreboard.

MFR.: Inland Wire Products Co., 3947 S. Lowe Ave., Chicago 9, Ill.

Frozen Food Carton

DESCRIPTION: The four top flaps of this frozen food package are designed to form a funnel. Trade name: Funnel Pak.

FEATURES: The funneling effect of the four flaps makes top loading easier and reduces spillage. The design requires less paperboard, thus reducing production costs.



MFR.: Container Corp. of America, 38 S. Dearborn, Chicago 3, Ill.

Circulars, Bulletins Catalogues, Brochures

Walnuts: "The California Walnut" is a reference book giving a factual picture of walnut growing, processing, marketing, and a history of the California walnut — Diamond Walnut Growers, Inc., Box 1727, Stockton 1, Calif.

Waste Treatment: Bulletin B97-2 entitled "Instrumentation for Treatment of Industrial Wastes" is a compilation of articles reprinted from Instrumentation magazine — Minneapolis-Honeywell Regulator Co., Wayne and Windrim Ave., Philadelphia 44, Pa.

Cold Storage Doors: Bulletin #5596 contains detailed photographs and construction sketches of cold storage and refrigerator doors together with color swatches—Jamison Cold Storage Door Co., Hagerstown, Md.

Control Panels: Illustrated bulletin (G-9) discusses the selection of the right control panel for a wide variety of automatic materials handling systems—Fuller Co., Catasauqua, Pa.

Screw Conveyors/Feeders: Book 2989, "Screw Conveyors and Screw Feeders," describes the versatile applications and selection of screw conveyors, screw feeders and components —Link-Belt Co., Prudential Plaza, Chicago 1, Ill.

Seeds: The 1960 Catalog lists and illustrates seeds available for the different varieties of corn, peas and beans —Rogers Brothers Co., Box 2188, Idaho Falls, Idaho.

COMING SOON!!
THREE NEW MACHINES

. . . UNIVERSAL CASE PACKER . . .

Now a case packer to handle all cans from 202 to #10 inclusive, including flats, squats, and squares, as well as most all glass from 2 oz. to gallons inclusive. Only minutes to change from one size to another. Containers always remain upright. No denting or breakage. Single and/or double tiers.

. . . EIGHT LANE UNSCRAMBLER . . .

For those who need high speed production and warehouse labeling lines. Maintaining all the exclusive features on the Model #12 Unscrambler while handling 1200 cs. plus per hour.

. . . COMBINATION UNSCRAMBLER . . .

Now one unscrambler to handle *all* your full cans from 202 to 404 inclusive, *including flats and squats*. Adjustable from one size to another in minutes. Extremely gentle as well as portable.

PHONE 190 **SHUTTLEWORTH, INC.** **WARREN, IND**

MYSTIFYING!

The speed at which a Fuller Man finds a solution to your adhesive problems

H. B. Fuller Co.

INDUSTRIAL ADHESIVES

St. Paul 2, Minnesota

ST. PAUL, MINN. • ATLANTA, GA. • BUFFALO, N. Y. • CHICAGO, ILL. CINCINNATI, OHIO • DALLAS, TEX. • KANSAS CITY, MO. • LINDEN, N. J. • LOS ANGELES, CALIF. • MEMPHIS, TENN. • PORTLAND, ORE. • SO. SAN FRANCISCO, CALIF. TAMPA, FLA.

Also WINNIPEG, CANADA

FULLER ADHESIVES INT'L. NASSAU, BAHAMAS

CANNED FOODS
Many Annual 1959 Pack Figures Reported

Can Shipments: U.S. can manufacturers shipped the following quantities of cans to U.S. food processors in 1958 and 1959 (thousands of short tons):

End Use	1958	1959
Fruit & vegetables	1,560	1,562
Milk, evap. & condensed	207	203
Other dairy products	36	31
Meat & poultry	136	146
Fish	124	115
Coffee	209	221
Lard & shortening	110	107
All other foods	494	505
Totals	2,876	2,890

Shipments to pet food packers, not included in the above, totaled 173 thousand tons in 1958 and 180 thousand in 1959.

Canned Fruits: Latest figures on the U.S. canned fruit pack in 1959-60 indicate that it will total about 128 million actual cases, compared with 113 millions in 1958-59. Packs reported to date are as follows, with 1958-59 data, in thousands of actual cases all sizes:

Item	1958-59	1959-60
Apples		
To Jan. 1	3,308*	3,619*
Jan. - May pack	655	a
Applesauce		
To. Jan 1	15,139	16,413
Jan. - May pack	864	a
Apricots	2,344	6,215
Berries		
Blackberries	592	525
Blueberries	561	a
Boysenberries	361	289
Gooseberries	22	51
Loganberries	4	8
Black raspberries	240	a
Red raspberries	88	a
Strawberries	78	a
Cherries		
Dark sweet†	524	244
Light sweet	984	762
Red tart	2,746	4,128
Citrus		
Grapefruit	5,056	a
Orange	18	a
Salad	571	a
Figs	800	457
Mixed		
Cocktail	15,107	16,944
Salad	839	1,202
Other exc. citrus	289	438
Olives	2,214	1,600p
Peaches		
Clingstone	20,151	24,783
Freestone	8,244	8,866
Spiced	471	834
Pears	9,777	11,788
Pineapple #		
To Jan. 1	15,547	14,954
Jan. - May pack	3,936	a
Plums		
Purple	1,465	1,904
Other	53	a
TOTALS		
Comparable items	100,928	116,024
Total Pack	113,048	128,000p

*Cases 6/10s. †Pacific Northwest pack only; others included with light sweets. #Includes Hawaii-Philippines; excludes Texas-Puerto Rico. a—Data not available. p—Preliminary estimate.

Canned Vegetables: Fairly complete data on the 1959-60 pack of U.S. canned seasonal vegetables indicate a total pack for the year of about 183 million actual cases all sizes. This compares with just under 193 millions in 1958-59. Details by varieties for the two seasons are as follows (thousands of actual cases):

Item	1958-59	1959-60
Asparagus		
Green	4,659	5,148
White	2,827	1,926
Beans, fresh		
Green snap	25,359	23,731
Wax snap	2,837	3,154
Fresh lima	2,752	3,008
Beets		
To Jan. 1	8,447	8,332
Jan. - March	205	a
Carrots		
To Jan. 1	2,906	2,207
Jan. - March	128	a
Corn, cut	32,078	40,160
Okra		
Straight	545	441
With tomato, corn	442	281
Peas		
Green	33,110	29,020
Field	2,275	a
Pimientos	1,831*	2,205
Pumpkin, squash	2,997	3,128
Spinach	5,211	5,539q
Other greens	2,523	a
Tomatoes	29,604	23,000
Tomato products		
Catsup, tin	3,476	3,073
Chili Sauce, tin	595	570
Paste†	8,242	6,160
Puree	3,397	2,781
Sauce	10,979	8,686
Other†	898	1,404
Mixed vegetables		
Carrots & peas	1,518	1,746
Succotash	384	386
All others	2,320	1,975
TOTALS		
Comparable items	187,414	178,159
Total pack	192,545	183,000p

*Revised; new case basis. †California pack only. a—Not available. p—Preliminary. q—Spring pack only.

Canned Milk: The U.S. pack of canned evaporated milk totaled 2266.5 million lbs. in 1959, USDA reports, against 2298.3 millions in 1958. The output of canned sweetened condensed, however, went up to 61.3 million lbs. from 57.1 millions in 1958.

Canned Poultry: The U.S. pack of canned poultry and products containing poultry continued its upward trend by setting a new output record in 1959. Usage of poultry for canning and other processing is reported by USDA as follows, in thousands of lbs.:

Item	1958	1959
Young chickens	37.7	51.8
Mature chickens	161.7	155.8
Turkey	61.5	80.3
Other	0.1	0.1
Totals	261.0	288.0

FROZEN FOODS
Early 1959 Data on Fruits, Vegetables, Juices

Seafoods: U.S. production of frozen fish sticks was slightly under 60.3 million lbs. in 1959, against 60.9 in 1958. Output of frozen fish portions, however, went up from 21.8 million lbs. in the earlier year to nearly 37.0 millions last season, according to U.S. Fish & Wildlife Service.

Fruits: Preliminary figures on the U.S. 1959 pack of frozen peaches, released by NAFFP, show an output of 44.3 million lbs., quite similar to

the 43.5 millions of 1958 and the 44.5 millions of 1957. . . California packers received small quantities of strawberries for freezing through December. Receipts by the state's freezers to Dec. 12 were 70.6 million lbs., against 110.0 millions in 1958 and 97.9 in 1957. . . The U.S. 1960 strawberry acreage (for both processing and fresh market) is estimated by USDA at 98,100 acres, against 97,850 acres in 1958.

Juices: Florida's pack of frozen citrus concentrates for the first month of its 1959-60 season (beginning Nov. 1) compares with November production in 1958 as follows (thousands of gals.):

Item	1958-59	1959-60
Grapefruit	40	11
Orange	220	290
Gr./O. blend	14	...
Tangerine	30	56
Limeade	a	201

a—Not available.

Preliminary figures on the U.S. pack of frozen cut corn, provided by NAFFP, shows the 1959 output to have compared with 1958 as follows (millions of lbs.):

Region	1958	1959
East & South	29.5	28.6
Midwest	27.8	28.9
West	53.7	59.5
Total U.S.	111.0	117.0

GLASSED FOODS

1959 Figures Show an Increase in Pack

Peanut butter: Peanuts utilized for butter manufacture, in the first four months of the marketing year beginning Aug. 1, totaled 124,670 thousand lbs. in the U.S., according to USDA. This compares with 129,195 thousand lbs. in the like period of the 1958-59 marketing year. Peanut butter going directly into commercial sandwich use is excluded from the above figures.

Chili Sauce: California and U.S. production for 1959 compared with 1958 as follows, according to Natl. Canners Assn. and Canners League of Calif. (thousands of cases, 12 bottles and 6 cans per case):

Item	1958	1959
Calif., tin	272	246
Calif., glass	700	1,047
U.S., tin*	594	570
U.S., glass	1,504	2,257

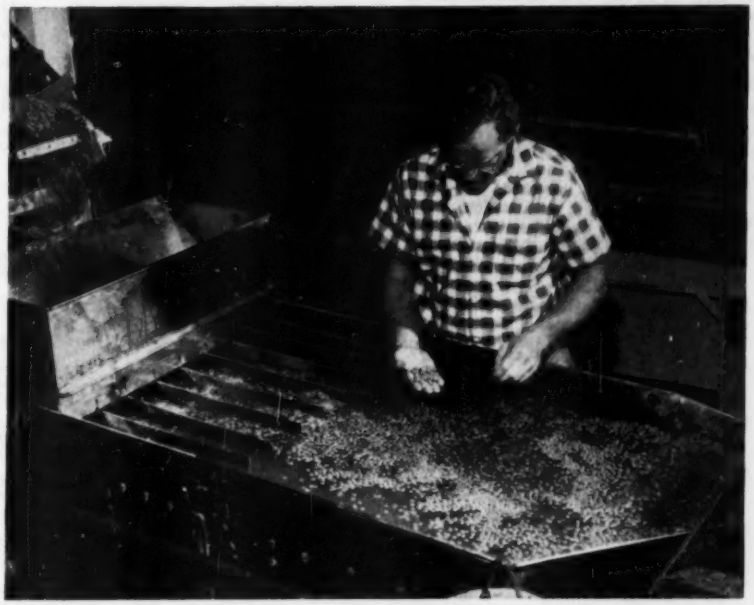
*Includes misc. tin/glass

Catsup: California and U.S. packs of catsup in 1959 fell below 1958 outputs, as the following NCA and CLC figures show (thousands of cases):

Item	1958	1959
Calif., tin	2,858	2,293
Calif., glass	11,012	8,936
U.S., 6/10 tin	3,426	2,962
U.S. 24/12z glass	1,657	1,885
U.S. 24/14z glass	18,630	16,369
U.S. 12/other gl.	4,601	4,447
U.S. misc. tin-gl.	51	111

SILICONE NEWS from Dow Corning

All Product...No Foam



Dow Corning Silicone Defoamers Keep Production in High Gear

Peak season processing of beans, peas, carrots and other vegetables—pickles and fruit, too—can't wait on foam. That's why more and more food processors are using Dow Corning silicone defoamers to keep foam under control at all times.

Whether yours is vegetable processing or some other phase of the food industry, foam robs you of production space, slows processing, increases maintenance, causes boil-overs and waste — may even create fire hazards!

IN FREEZING MIXES

Stop foam before it starts. Easy to use, fast-acting Dow Corning silicone defoamers won't contaminate your products . . . are completely safe in packaging and processing. Dow Corning Antifoam A may be used in nonstandard foods at concentrations to 10 ppm; and water-dilutable Antifoam AF Emulsion at concentrations to 34 ppm.

AN EASY-TO-USE SPRAY

A generous trial sample is yours for the asking. Write for this FREE SAMPLE, indicating your foaming problem and whether your system is aqueous or oil. Address Dept. 4404 for prompt reply.

first in silicones

Dow Corning CORPORATION
MIDLAND, MICHIGAN

ATLANTA BOSTON CHICAGO CLEVELAND DALLAS LOS ANGELES NEW YORK WASHINGTON, D. C.

Processed Food Prices

CANNED FOOD PRICES

F.O.B. packing plant, per dozen containers, as of the first of the month indicated. Data compiled from latest available price lists of individual packers. Districts as follows:

ATLANTIC (Atl.)—Me., N. H., Vt., Mass., Conn., N. Y., N. J., Penna., Md., Del., Va.
SOUTH (S.)—N. C., S. C., Ga., Fla., Ky., Tenn., Ala., Miss., Mo., Ark., Ia., Okla., Tex., P. R.
MIDWEST (M.)—Ohio, Ind., Ill., Mich., Wis., Minn., Iowa, S. D., Neb., Kans.
WEST (W.) — Alaska, Ariz., Calif., Colo., Hawaii, Ida., Mont., N. M., Ore., Utah, Wash., Wyo.

Prices are in dollars and cents, with the dollar omitted when the range covers more than one dollar. When the range is 2 dollars or more, the prices are averaged.

$1.75 to $1.95 is written 1.75-95
$1.75 to $2.95 is written .75-2.95
$1.75 to $3.95 is averaged 2.95

CANNED FRUITS

	February 1, 1960		March 1, 1960	
	—303—	—10—	—303—	—10—
Apples, sliced				
Atl.		12.00		12.00
Wes.		9.50		9.50
Applesauce, fancy				
Atl.	1.30	6.85	1.30	6.85
Wes.	1.60	8.75	1.45	8.50
Apricots, ch. hvis.				
Wes	2.05		2.05	
Cherries—Red Tart Pitted, water				
Atl.		12.50		12.50
Mid.	1.87	10.75	.75-1.95	.75-11.50
Wes.	2.07	11.50	2.07	12.00
Cherries—Sweet Unpitted, Wes. ch.				
dark	3.15	16.85	3.15	18.35
light			3.35	
Citrus—Grapefruit (303 & 46 oz.) fcy. swtnd.				
So.	1.75	9.50	1.75	9.50
Citrus-Salad (303 & 46 oz.) fcy. swtnd.				
So.	2.80		2.80	
Cranberry Sauce (No. 300) fcy. puree				
Atl.	1.70-75		1.70-75	
Wes.	2.35	13.05	2.35	13.05
Fruit Cocktail, choice				
Wes.	2.12	11.85	2.12	11.85
Fruits For Salads, fcy.				
Wes.	3.05	16.75	3.05	16.75
Olives, Ripe (No. 1 Tall) Wes.				
lg.	2.90	18.10	2.90	18.10
ex. lg.	3.00	18.80	3.00	18.80
Peaches—Clingstone, Wes. ch.				
slice	1.75	9.50	1.90	9.50
hlvs.	1.75	9.10	1.75	9.10
Peaches—Freestone, ch. hlvs. Elb.				
Mid.	2.65	11.25	2.65	11.25
Wes.	1.90	10.35	1.90	10.35
Pears, ch. hlv. Bart.				
Mid.	1.90-05	11.00	1.90	10.50
Wes.	2.05	11.50	2.05	11.50
Pineapple (No. 2) Wes. fcy.				
Slice	3.75	15.50	3.75	15.50
Chnk	3.42	15.70	3.42	15.70
Crsh	2.90	11.40	2.90	11.40
Plums—Purple, ch.				
Wes.	1.52	7.25	1.55	7.25

CANNED VEGETABLES

	February 1, 1960		March 1, 1960	
	—303—	—10—	—303—	—10—
Asparagus (No. 300) fcy. lg. green				
Atl.	3.40	12.25	3.40	12.25
Mid.	3.00	12.75	3.00	12.75
Wes.	3.40		3.52	
Asparagus, White				
Wes.	2.80		2.80	
Beans, Green Lima, fcy. small				
Atl.	2.10	12.25-50	2.10	12.25-50
Mid.	1.85	12.00	1.45	8.75
Beans, Green Snap, fcy. cut (Wes. B. L.)				
Atl.	1.20-55	9.00	1.40	9.00
So.	1.40	8.50	1.60	8.50
Mid.	1.35-45	.00-9.00	1.45-55	9.00
Wes.	1.77	11.00	.77-2.20	.00-11.00
Beans, Wax Snap, fcy, cut.				
Atl.	1.70	.50-9.00	1.70	.50-9.00
Mid.	1.40-50	.25-9.25	1.50	9.25
Beets, fcy. sliced				
Atl.	1.07-12	.75-5.00	1.07-12	.75-5.00
Mid.	1.05-15	5.00	1.15	5.00
Wes.			1.35	6.10
Carrots, fcy. diced				
Atl.	1.20-40	6.50	1.30	5.60
Mid.	1.00	5.00	1.00	5.00
Wes.				
Corn-Golden, Cream & Kernel, fcy.				
Atl.	1.30-45	.50-9.00	1.40	8.75
Mid.	1.35-40	8.00-25	1.40-45	8.25-50
Wes.	1.55-60	8.50	1.55-60	8.50
Corn-White, Cream & Kernel, fcy.				
Atl.	1.40	8.50	1.40	8.50
Peas, Green (No. 2 sieve), fcy. early				
Atl.	1.85	10.00	1.85	10.00
Mid.	1.70-90	.50-12.00	1.75-85	.50-12.00
Peas, Green (No. 2 sieve), fcy. sweet				
Atl.	1.70	.50-9.50	1.70	9.00
Mid.	1.70-90	.50-12.00	1.70	9.50
Wes.	1.72		1.72-75	
Peas, Blackeye (No. 300) fcy.				
So.	1.20	7.50	1.20	7.50
Pimientos (4-oz.) whole, So.				
tin			1.65	
glass	1.85		1.85	
Potatoes, Sweet (No. 3-Vac.), fcy. syrup				
Atl.	2.10	9.50	2.10	9.50
So.	2.60	9.50	2.60	9.50
Potatoes, Sweet (No. 3 Vac.) fcy. vacuum				
Atl.	2.10		2.10	
Potatoes, White, fcy.				
Atl.	1.00		1.05	
So.		5.00-50	1.15	5.55
Pumpkin (No. 2½), fcy.				
Atl.	1.50	5.50	1.50	5.50
Mid.	1.55	5.00	1.57	5.50
Wes.	1.50	5.00	1.50	5.00
Spinach, fcy.				
Atl.	1.45	7.00	1.45	7.00
So.	1.20	5.75	1.20	5.75
Wes.	1.20	4.75	1.20	4.75
Other Greens, So. fcy.				
trnp	.95-97	4.80	.97½	4.80
mstd	.95-97	4.80	.97½	4.80
poke	1.35		1.35	
Sauerkraut, fcy.				
Atl.	1.15	5.10	1.15	5.10
Mid.	1.40	6.60	1.40	6.80
Wes.	1.35	7.25	1.35	7.25
Tomatoes, Ex. Std. (Wes. fcy.)				
Atl.	1.50	8.00	1.60	8.00
So.	1.25	7.00	1.25	7.00
Mid.	1.50	8.75	1.50	8.75
Wes.	1.40	7.50	1.40	7.50
Tomato Catsup—Tin, fcy.				
Atl.		11.00		11.00
Mid.		10.00		10.00
Wes.		9.50		9.50
Tomato Paste (6-oz.) 26%				
Atl.		10.85		10.85
Mid.		10.85		10.85
Wes.	.84	11.00	.90	11.60
Tomato Puree (No. 2½) fcy. 1.045 (Wes. 1.06)				
Atl.	2.00	7.00	2.00	7.00
Mid.		6.50		6.50
Wes.	2.20-25	7.00	2.20-25	7.25-35
Tomato Sauce (8-oz.) fcy.				
Atl.	.95	11.00	.95	11.00
Wes.	.77	8.00-25	.77½	8.25
Mixed Vegetables, fcy. Peas-Carrots				
Atl.	1.65	9.00	1.65	9.00
Mid.	1.40-50	.25-9.00	1.45	.25-9.00
Wes.	1.75	9.75	1.62	9.00
Mixed Vegetables, Succotash, fcy.				
Atl.	1.50	11.00	1.50	11.00
Mid.	1.45	11.00	1.45	11.00
Mixed Vegetables, other				
Atl.	1.55	8.00	1.55	9.00
Wes.	1.75	9.75	1.75	9.75

FROZEN VEGETABLES

(Retail per doz.)
(Instl. per lb.)
(Grade A)

	February 1, 1960		March 1, 1960	
	—Retail—	—Instl.—	—Retail—	—Instl.—
Asparagus—Jumbo, 10-oz., 40-oz.				
Atl.	4.50	.51	4.50	.51
Wes.	3.45	.45	3.45	.45
Beans, Fdhk, Lima—10-oz., 40-oz.				
Atl.	2.14-59	.24	2.15-59	.24
Wes.	.65-2.05	.20	1.85	.21
Beans, Baby Lima—10-oz., 40-oz.				
Atl.	2.15-59	.24	2.25-59	.24
Wes.	.85-2.00	.20-.20½	1.95	.21
Beans, Green Snap—Reg. 9-oz., 40-oz.				
Atl.	2.05	.85-2.05		.20
Wes.	1.55	.19-.20	1.60	.18
Beans, Green Snap—Fr. Cut 9-oz., 40-oz.				
Atl.	2.05	.85-2.05		
Wes.	1.55	.18½-.19	1.60	.18
Beans, Italian—9-oz., 40-oz.				
Atl.	2.35		2.35	
Wes.	1.95	.20½	1.95	.20½
Broccoli—10 oz., 32-oz., Spears				
Atl.	2.20-33	.22	2.20-33	.19-.20
Wes.	1.55-65	.18-.19	1.85	.18-.19
Brussels Sprts.—10-oz., 32-oz.				
Wes.	2.35	.23-.26	2.35	.23
Carrots—30#				
Atl.		.07		.07
Wes.		.05½-.06		.06
Cauliflower—10-oz., 32-oz.				
Atl.	2.55		2.55-75	.15
Wes.	1.65-85	.19	1.85	.19
Corn, Cut—10-oz., 40-oz.				
Atl.	1.90-99	.22	1.99	.19½
Wes.	1.55-60	.19-.19½	1.60	.19
Corn, Cob—2-ear, 12-ear				
Mid.	2.60		2.60	
Wes.	.95-1.85		1.40-70	
Kale—10-oz., 32-oz.				
Atl.	1.60	.13	1.60	.13
Mixed Vegetables—10-oz., 40-oz.				
Atl.	.75-2.05	.21	.75-2.05	.21
Mid.	1.55	.19	1.55	.19
Wes.	1.55-60	.19	1.60	.19-.20
Okra—10-oz., 40-oz.				
Atl.	1.70	.22	1.70	.22
Peas, Blackeye—10-oz.				
Wes.	2.25		2.25	
Peas, Green—10-oz., 40-oz.				
Atl.	1.50-79	.17	1.50-79	.17
Mid.	1.35	.16	1.35	.16
Wes.	1.35-45	.15½-.16	1.45	.15½-.16
Peas & Carrots—10-oz., 40-oz.				
Mid.	1.17	.16	1.17	.16
Wes.	1.25-30	.15-.15	1.30	.14-.16
Potatoes—9-oz., 40-oz. Atl.				
F. F.	1.60-74	.19	1.60-74	.19
whip	1.52		1.52	
shred	1.80		1.80	
puffs	1.63		1.63	
Potatoes, 9-oz., 40-oz. Wes.				
F. F.	1.35-40	.17	1.40	.17
shred		.17½		.17½
Pumpkin & Squash—12-oz., 4-lb.				
Atl.	1.63	.08½	1.63-65	.08¾
Wes.	1.30	.08½	1.30	.09
Spinach—10-oz., 48-oz., Leaf				
So.	1.70	.09½	1.70	.09½
Wes.	1.10-50	.09½-.11	1.20-25	.08-.10½
Spinach—10-oz., 40-oz., chopped				
So.	1.70	.10	1.70	.10
Wes.	1.05-50	.09½-.10	1.15-20	.10
Succotash—10 oz., 40-oz.				
Atl.	2.00-25	.23	2.00-25	.23
Wes.	1.65-75	.10-20	1.65	.19

FROZEN FRUITS

	February 1, 1960		March 1, 1960	
	—Retail—	—Instl.—	—Retail—	—Instl.—
(Retail per doz. 6-oz.) (Instl. per doz. 32-oz.)				
Apples (30# sliced)				
Atl.		.12		.12
So.		.12		.12
Wes.		.11½		.11½
Apricots (30# halved)				
Wes.		.10½		.12
Cherries, Red (30# Pitted)				
Atl.		.14		.14
Mid.		.15		.15
Wes.		.14		.18
Cherries, Sweet (30#)				
Wes.		.22		.20
Grapes and Pulp (44#)				
Atl.		.12½		.12½
Peaches, Freestone (12-oz., 30# sliced)				
Atl.	2.58	.18	2.58	.18
Mid.		.14		.14
Wes.	2.05-25	.13	2.05	.13
Blackberries (12-oz., 30#)				
Wes.	1.50	.23½	1.50	.23½
Blueberries (12-oz., 30#)				
Atl.	3.29	.26	3.29	.26
Mid.		.25		.25
Boysenberries (30#)				
Wes.		.13½	2.25	.13½
Raspberries, Black (10-oz. 30#)				
Atl.	2.88	.22	2.88	.22
Wes.				.25
Raspberries, Red (10-oz., 30#)				
Atl.	2.30-90	.25	2.30-90	.25
Mid.	2.20		2.20	
Wes.	2.20	.20-.23	2.20	.20-.23
Strawberries (10-oz. sl., 30# whl.)				
Atl.	2.35-56	.25	2.35-56	.25
Wes.	2.05-20	.20½-.21	2.05-20	.19½-.20
Mixed Fruits (12-oz.)				
Wes.	2.75		2.75	

FROZEN JUICES

	February 1, 1960		March 1, 1960	
	—Retail—	—Instl.—	—Retail—	—Instl.—
(Retail per doz. 6-oz.) (Instl. per doz. 32-oz.)				
Grapefruit				
So.	1.20	5.50	1.20	5.50
Lemon				
Wes.	.88		.88	
Lemonade				
So.	1.16		1.16	
Wes.	.87		.87	
Lemonade, Pink				
Wes.	.88		.88	
Limeade				
So.	1.00	6.00	1.00	6.00
Orange				
So.	1.50	7.50	1.50	.75-7.25
Wes.	1.60-87		1.60	

Contest Winner Honored at Youthpower Congress

Nine farm youths attended the National Youthpower Congress sponsored by the American Farm Bureau Federation, Feb. 11-13. The nine youths are 1959 winners of the Canning Crop Contest. This nation-wide competition is co-sponsored by the National Junior Vegetable Growers Assn. and the National Canners Assn.

The young people were active participants at the Congress. They entered into a series of panels, discussions and meetings which highlighted a nation-wide educational program to give the teen-ager a better understanding of nutrition, and of the contribution the food and agricultural industries make from farm to table.

One of the nine youths was Robert B. Green, 20, Rushville, N. Y., the 1959 National Canning Crops Contest champion. During the three-day meeting, young Green was honored by Charles B. Shuman, president of the American Farm Bureau Federation, for his achievement in winning the annual canning crops championship. Mr. Green handed him an engraved plaque, donated by NCA.

CANNING CROPS CONTEST WINNER, Robert Green, 20, is pictured receiving the championship plaque from Charles B. Shuman, president, Farm Bureau Federation.

The other eight attendants were: Thomas Church, 17, Holton, Mich., Michigan state champion; Joseph Comerford, 17, Bunker Hill, Ind., winner of $10 award from Indiana Canners Assn. in the tomato production trials; Lester C. Jones, Jr., 19, Medford, N. J., New Jersey state champion; John Kruepke, 15, Jackson, Wis., Wisconsin state champion; Anthony Russo, III, 18, Tabernacle, N. J., 4th place winner in the New Jersey state contest; Ronald L. Schafer, 17, Kokomo, Ind., tied with his 15-year old brother Roger for the Indiana state championship; Phillip Short, 15, and Jerry L. Wyse, 16, both of Stryker, Ohio, and both are Ohio Canners and Food Processors Assn.'s Top Ten Club winners.

Committee Formed To Study Pea Breeding

Reports on a long-range program of breeding new varieties of peas resistant to root rot were heard at the 1960 convention of the Northwest Canners & Freezers held at the Olympic hotel, Seattle, in January.

A cooperative pea breeding program has been set up between the state departments of agriculture of Washington, Oregon, and Idaho, and the USDA. Heading up the technical committee is Dr. James Baggette, Oregon State College. Garnet Radebaugh, Green Giant Co., Dayton, Wash., is chairman of the industry advisory section of this committee.

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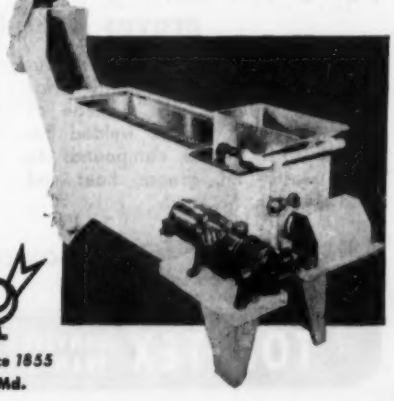

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Cherry Flavored Apple Cider

Wesley Orbaker, Williamson, N. Y., is packing pure apple cider with the added flavor of cherries. The cider

is packaged in half-gallon glass decanters. No body labels are used. The product is identified as Deacon Brand Cherry Flavored Apple Cider in a small folder attached to the neck of the container. The decanter is supplied by Metro Glass Div., National Dairy Porducts Corp., Jersey City, N. J.; metal screw closure is by Crown Cork & Seal Co., Philadelphia, Pa.

Tomato Rice Soup

H. J. Heinz Co., Pittsburgh, Pa., has added Condensed Tomato with Rice Soup to its line of condensed soups. It is a combination of tomato soup base with long-grain Patna Rice. The standard 10½ oz. can with the traditional label is used for packaging the soup.

Salad Shrimp

Robinson Canning Co., Inc., New Orleans, La., has introduced Salad Brand Shrimp—deveined and broken in 4½ oz. tins. A suggested serving for Shrimp Cerole appears on the front of the label with the recipe on the back. The label design reflects the old traditions of New Orleans and the Mardi Gras.

Frozen Dinners

Campbell Soup Co., Camden, N. J., has made a new addition to its Swanson "TV" Brand Dinner line—sugar cured Ham Dinner with raisin sauce. The dinner also contains peas and carrots and whipped sweet potatoes topped with butter. This brings the total dinners now available in the Swanson line to 10.

Sweet Corn Casserole

Martin H. Cope Co., Rheems, Pa., is introducing "Indian Princess Sweet Corn Casserole," a sweet-corn ready-mix. It requires only the addition of eggs and milk to produce a baked corn custard. Recipes for scalloped corn and oysters, corn-rice-tuna jamboree, and ham-and-corn royal are also included on the package. The mix ls packed in 6 oz. canisters, 24 to the case; it is priced at $6.30 per case.

Jell-O Flavors

The Jell-O Div., General Foods Corp., White Plains, N. Y., has added three new flavors to the 6 oz. family size package of Jell-O gelatin—orange, lemon and lime. This brings to six the number of flavors now being offered in the new double-size package.

Baby Food

Heinz Baby Foods, Pittsburgh, Pa., has introduced two new High Meat Dinner varieties—Chicken a la King and Chicken with Rice. They are avail-

able in both strained and junior forms. Both are marketed in 4¾ oz. clear glass containers.

World Favorites

Geo. A. Hormel & Co., Austin, Minn., is introducing a new line of canned foods made from authentic foreign recipes. Called "Famous Foods of the World," the line consists of Beef Stroganoff (slices of beef with mushrooms in a sauce of sour cream and sherry wine); Swedish Köttbullar

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(tiny meatballs in a dill-spiced sour cream sauce); Italian Chicken Cacciatore (chicken cooked "hunter style" with tomatoes, herbs and mushrooms); and two continental soups: French Onion and Spanish Garbanzo. The labels, designed by BBDO—Hormel's advertising agency, are based on flags and seals of the country of origin.

Variety of Vegetables

Lakeside Packing Co., Manitowoc, Wis., is introducing a wide variety of vegetables in glass jars with twist-off closures. Items include whole, cut and

french style green and wax beans; whole, diced, sliced and shoestring beets; whole, sliced and diced carrots. Distribution will be national. Glass jars are supplied by Owens-Illinois Glass Co., Toledo, Ohio; closures by White Co., Chicago; and labels by U. S. Printing and Lithographers.

Kumquats

Superior Fruit Processing Co., Inc., Staten Island, N. Y., is offering a special pack of high quality Kumquats in #10 glass containers. The fruit is packed in a very heavy syrup enabling the product to be stored without being placed under refrigeration after the jar is opened.

New Package Briefs

Tray Display for Canned Meats: Libby, McNeill & Libby, Chicago, Ill., is using shipping cartons that can be cut into display-shelf trays for its canned meats.

Coffee Is Dated: Albert Ehlers, Inc., Brookln, N. Y., is stamping a date and message which reads "not to be sold after this date" on its new foil laminated coffee bags. Bags are by

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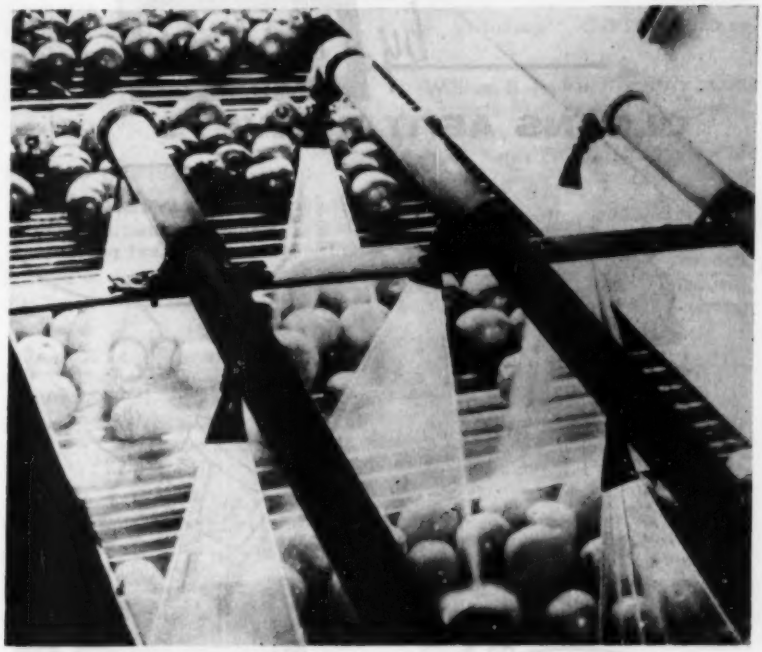

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CONSIDER THESE FACTS: In one comparison test, leaf produce cleaned by water alone showed a bacteria count of 350,000 organisms per gram. When just ¼ ounce of Oakite "78" was added to each gallon of water, the count dropped to 19,000 per gram—a 95% improvement.

RESULTS OF OTHER TESTS: Oakite-washed Broccoli, celery, lettuce and radishes stayed fresh after three days on the shelf, while control samples washed only in water were badly wilted. On tomatoes, the extraordinary detergent action of Oakite "78" solved the drosophila egg problem time after time.

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Niagara Falls, New York

FOR THE FOOD PROCESSOR

the Flexible Packaging Div., Continental Can Co., New York City.

Pickles in Large Refrigerator Jars: T. L. Brice Co., Sherman, Texas, is packaging its Brice line of pickles in new 48 oz. refrigerator jars which have a re-use value. Jars and closures are by Owens-Illinois Glass Co., Toledo, Ohio labels by Graphic Arts Label Co., Ft. Worth, Texas.

Dog Food in Corrugated: Premor Feed Mills, Belpre, Ohio, is using colorfully-printed corrugated boxes for packaging its dog food. Each weighs 5 lbs. Ten of these are packed to a master shipping unit. Boxes are by Hinde & Dauch Div., West Virginia Pulp & Paper Co., Sandusky, Ohio.

Family Identity for Jellies: Lutz & Schramm, Inc., Pittsburgh, Pa., is packaging its 10 oz. and 1 lb. sizes in newly-designed jars produced by the Hazel-Atlas Glass Div., Continental Can Co., New York City. Caps are by White Cap Co., Chicago, Ill.; labels, Piedmont Label Co.

Fruits & Vegetables in Poly Packs: Kelly, Farquhar & Co., Tacoma, Wash., is using striped poly packs to package Sparklets brand frozen foods (peas, strawberries, carrots, etc.). They were designed and produced by Western-Waxide Div., Crown Zellerbach Corp., San Leandro ,Calif.

New Size for Instant Coffee: Rich-Taste Corp., Long Island City, N. Y., has introduced a new 12 oz. size for its Instant Decaffeinated Coffee. It retails at about $1.79.

Pickle Family Gets New Label: Bond Pickle Co., Inc., Oconto, Wis., has adopted new labels for its line of pickle products. Each label is color-keyed to a pickle variety. Labels are by Standard Packaging, Inc., Pittsburgh, Pa.

Corn on the Cob in Poly Pack: Patterson Frozen Foods, Patterson, Calif., is packaging Corn on the Cob in polyethyelne bags—2 ears per package. Bags are supplied by Western-Waxide Div., Crown Zellerbach Corp., San Francisco, Calif.

Chopped Onion in Flexi-Bags: Gentry Div., Consolidated Foods Corp., Los Angeles, Calif., is packaging its sliced and chopped onion in Flexi-bag packs for the institutional market.

Italian Food in Glass Tumblers: Acierno Brothers, Brooklyn, N. Y., is packaging its Succa spaghetti sauce with meat and meatless ravioli with cheese in reusable glass tumblers supplied by Hazel-Atlas Glass Div., Continental Can Co., New York City.

INDUSTRY NEWS

Companies & Plants

The Illinois Canning Co., Hoopeston, Ill., has purchased the Fuhremann Canning Co., Mayville, Wis. Fuhremann will be a wholly owned subsidiary; personnel will remain under the management of Howard Fuhremann.

General Foods Corp., White Plains, N. Y., will be giving a gift of $100,000 a year for 10 years for the expansion of nutritional research laboratories of the Harvard School of Public Health, Harvard University, Cambridge, Mass.

Pine Grove Canning Co., Inc., St. Martinville, La., processor of vegetables and sweet potatoes, listing assets at $1,448,055 and debts at $1,650,000 has been granted permission to reorganize. Officers are Leonce Durand Sr., president, Mrs. Leonce Durand, vice president; and Leonce Durand Jr., secretary-treasurer, and manager.

Thomas J. Lipton, Inc., Albion, N. Y., is planning a million dollar expansion for 1960 that will include an addition of a third story to one of its buildings. The firm recently completed installing a $350,000 freeze-drying process.

R. T. French Co., Rochester, N. Y., has purchased L. C. Forman Co., Inc., Pittsford, N. Y. Forman, processor of pickles, relish, mustard, etc., will operate as a separate corporation.

Libby, McNeill & Libby, Chicago, Ill., has adopted a new pricing policy on its line of frozen foods. All frozen food proudcts will now be sold on an F.O.B. plant basis.

Alimentos Heinz C.A., a subsidiary of H. J. Heinz Co., Pittsburgh, Pa., is building a food processing plant in Caracas, Venezuela. Manufacturing operations are expected to begin early next year.

Gerber Products Co., Fremont, Mich., has announced that arrangements have been completed between Gerber Products International, S.A., a wholly owned subsidiary, and companies in Venezuela and Japan for the manufacture of Gerber baby foods in those countries.

Bzura Chemical Co., Inc., Keyport, N. J., is conducting production test runs at the firm's new $2,500,000 Citric Acid plant in Fieldsboro, N. J. Preliminaries included shake down operations on the newly designed 30,000 gallon fermenters that have been especially developed by Bzura to allow the rapid production of pure Citric Acid, U.S.P. from blackstrap molasses, the most basic carbohydrate source. The plant is expected to yield more than 17,000,000 lbs. of Citric Acid annually.

Men in the News

Ian MacPhail has been appointed manager of factory quality control, H. J. Heinz Co., Pittsburgh, Pa. **Richard B. Patton** has been appointed product manager of the marketing division.

Thomas E. Reynolds has been named central regional vice president of Best Foods division and **T. C. Clawson** to central regional vice president of Corn Products division, Corn Products Co., New York City.

Quentin R. Russeth has been named mixes technical manager for the bakery mix and institutional products division of Pillsbury Co., Minneapolis, Minn. He has been with Pillsbury since 1938.

Dan Murchison has left Borden Food Products Co., New York City, after 28 years, to head up the Chiquita Banana division of American Home Foods, also of New York City.

Stirling Watts has joined the staff of Country Gardens, Inc., Milwaukee, Wis., as manager of the Coleman division.

William B. Powell, formerly executive secretary-treasurer of the National Red Cherry Institute, has joined the staff of Super Market Institute, Chicago, Ill.

John C. Suerth has been appointed vice president, manufacturing; Ray B. Wakefield, vice president, research; and Arthur J. Frens, vice president, assistant to the president, Gerber Products Co., Fremont, Mich.

Obituaries

Dr. Carl R. Fellers, 66, food technologist, a founder and past president of the Institute of Food Technology, died recently while lecturing at St. Anne de la Pocatiere, Quebec. He was a former Government bacteriologist and retired head of the Dept. of Food Technology at the University of Massachusetts.

Arthur C. O'Neill, 63, associated for 35 years with the food concern of Duffy-Mott Co., died recently after a short illness. He was sales manager of the firm at the time of his death.

W. F. EDWARDS (second from the left) was elected president of National Assn. of Frozen Food Packers, at the annual convention held in Chicago, Ill., March 7-10. Mr. Edwards is executive vice-president of Pasco Packing Co., Dade City, Fla., having been with his company since 1937. JAMES S. LAWLESS, Frosted Fruit Products, Los Angeles, Calif. (far right) was elected first vice-president, and NORMAN L. WAGGONER JR., Olney & Carpetner, Wolcott, N. Y. (not shown) was named second vice-president. Also seen in the picture above are LAWRENCE S. MARTIN (left), secretary-manager of the association, and HAROLD J. HUMPHREY, General Foods Corp., who served as president during 1959-60. Elected or re-elected to the board of directors at the Chicago convention were: James R. Agen, Cascade Frozen Foods, Inc., Burlington, Wash.; Clarice R. Cedergreen, Evergreen Frozen Foods Co., Snohomish, Wash.; Vernon Gross, Spiegl Farms, Inc., Salinas, Calif.; Leon C. Jones, J. R. Simplot Co., Caldwell, Ida.; J. O. Tankersley, Winter Garden Freezer Co., Inc., Bells, Tenn.; and George E. White, Birds Eye division, General Foods Corp., White Plains, New York.

SUPPLIERS NEWS

Companies & Plants

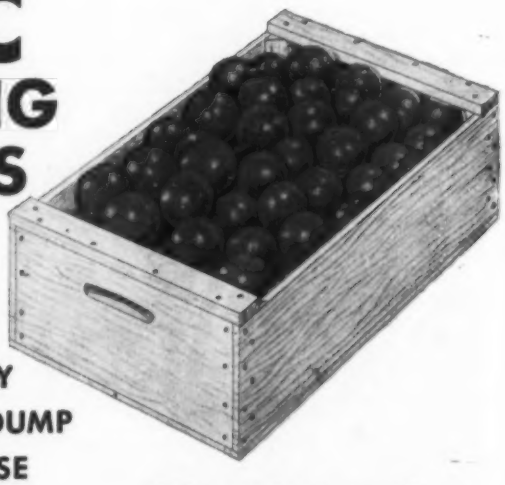
Federal Paper Board Co., Inc., New York City, and **Manchester Board and Paper Co., Inc.,** Richmond, Va., announced the merger of the two companies. The southern firm will continue under its present management as the Manchester Board & Paper Div. of Federal.

Hoffmann-La Roche Inc., Nutley, N. J., has changed the name of its Vitamin Division to Fine Chemicals Division. Frank Dowe has been named the division's special sales representative.

H. B. Fuller Co., St. Paul, Minn., is adding 7,000 sq. ft. to its Linden, N. J., plant nearly doubling its size and capacity.

Manistee Salt Works, Manistee, Mich., a manufacturing division of Hardy Salt Co., St. Louis, Mo., is now operating a quintuple effect salt evaporation system.

ASK US HOW
YOU CAN REDUCE
Handling COSTS
WITH
ABC
PICKING
BOXES
that



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- STACK EVENLY
- AUTOMATIC DUMP
- REDUCE BRUISE DAMAGE
- HAVE LONG LIFE
- SAVE SPACE

ABC's vast forest, sawmill and factory facilities assure immediate service.

We will gladly send information on the use of wooden picking boxes in mass production and automation handling methods.

American Box Corporation
2740 HYDE ST. SAN FRANCISCO 19, CALIF.

Asgrow Seed Company, New Haven, Conn., has announced that the Asgrow "oval" has been replaced by an "A" as a trademark. This follows the recent change in company name from Associated Seed Growers. It will take two years to apply the new trademark to all of the company's packaging, advertising, outdoor signs, letterheads, etc.

J. L. Ferguson Co., Joliet, Ill., has announced that the complete line of Packomatic automatic packaging machinery can now be leased for terms up to five years.

Reynolds Metals Co., Richmond, Va., will build a pilot plant for the development of new types of aluminum containers at Bellwood, Va. The plant will be known as the Container Development Plant.

The Pump Division of the **Waukesha Foundry Co.,** Waukesha, Wis., has announced the appointment of FMC International as its exclusive export sales representative for positive displacement pumps.

Boothe Leasing Corp., San Francisco, Calif., and **Deere & Co.,** Moline, Ill., have worked out a nationwide plan will permit customers to lease John Deere industrial tractors and equipment. The plan will be limited to the company's industrial and commercial customers.

Men in the News

M. J. Warnock, vice president, Armstrong Cork Co., Lancaster, Pa., has been elected a member of the board of directors and designated senior vice president.

Forest A. Lay has been appointed sales manager for general line food cans, Central Metal Div., Continental Can Co., New York City.

Robert E. Holland and **Donald M. Mohr** have been appointed to the sales staff of Geigy Agricultural Chemicals, a div. of Geigy Chemical Corp., Yonkers, N. Y.

Henry McInerney has been appointed advertising manager, Alvey Conveyor Manufacturing Co., St. Louis, Mo.

Conrad T. Staffa has been appointed territory representative to succeed Ed Hardesty who recently retired, Canning Machinery Div., Food Machinery & Chemical Corp., San Jose, ind. news . . .

Calif. His territory will include Maryland, Delaware, Dist. of Columbia, Virginia, and W. Virginia.

Hugh M. McKay has been named president of Refined Syrups & Sugars, Inc., Yonkers, N. Y.

D. T. Fitzmaurice

C. L. Alexander

Dennis T. Fitzmaurice has been appointed vice president, research and development, Cherry-Burrell Corp., Cedar Rapids, Ia.

Claude L. Alexander has been appointed a vice president of American Can Co., New York City.

Nolde A. Norman, a veteran of 47 years in the glass container field, Owens - Illinois Glass Co., Toledo, Ohio, has retired.

Raymond D. McMurray has been elected secretary of Hoffman - La Roche Inc., Nutley, N. J.

Wilmer D. Regnier has joined the Glass Container Manufacturers Institute, New York City, as package machinery engineer.

Web Leslie has been appointed district sales manager, Milprint, Inc., Milwaukee, Wis. His territory includes Michigan, Ohio, Indiana, western Pennsylvania, northern West Virginia, and northern Kentucky.

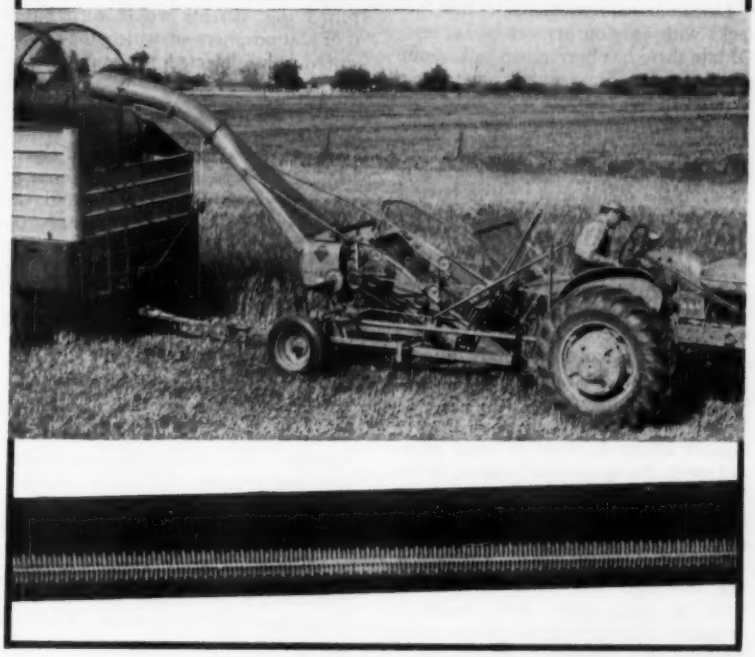
Obituaries

Hal Johnston, formerly vice president of Stetcher-Traung Lithograph Co., Rochester, N. Y., died recently. He was a former president of the Canning Machinery & Suppliers Assn., and widely known in the canning industry. In recent years he had been living in retirement in California.

Gaylord W. Belding, Jr., 48, personnel supervisor of plant No. 16 in Baltimore, Md., Continental Can Co., was killed in an automobile accident recently.

James Melville Porter, retired southern district sales manager for Continental Can Co., died recently at his home in New Orleans, La. He was also a vice president of the Dixie Canner Co. of Athens, Ga., from which he retired in 1958.

ALLIS-CHALMERS TAKES A LACING - TO IMPROVE PRODUCT QUALITY



Selects CLIPPER Hooks and Lacers for durability, easy installation, and smooth operation on small rollers

Allis-Chalmers Manufacturing Company of Milwaukee, one of the nation's leading manufacturers of farm machinery and equipment receives multiple benefits and improvement in product quality by their application of Clipper hooks and lacers on Forage Blower and Harvester feed table aprons and draper type pick-up belts.

They find in the Forage Harvester and Blower that Clipper lacing makes possible use of protective shields against the draper. On all applications drapers are easier to install, run more smoothly on small rolls and are more durable. The material laced is two-ply rubberized material from 15½ to 35¾ inches wide and from .060 to .090 inches thick.

For more information— *Detailed product information and case history examples of Clipper machine-lacing benefits are contained in Bulletin No. 157. Send for your free copy today.*

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

994 Front Ave., N. W., Grand Rapids 2, Michigan

Best Paint May Not Be a True Bargain

Paint in food plants is attacked by acids, alkalis, heat, water and abrasion.

Different paints will resist these attacks with varying degrees of success. Of late there has been much talk about certain resin paints which have great abilities in this respect. What the packer needs to remember is that, to succeed with these superlative coatings, it is necessary to get the surface right down to the metal, and then to have a trained and experienced man apply the new covering.

So, for normal food plant use, while you want a paint with high protective values, you also want one which is satisfactory for you to apply.

Mildewcidal coverings have important values for food plants. Four items should be remembered in selecting such a paint, however: One, all are not equally effective, either in basic material or in the amount of it used in the formula. Two, these paints are toxic, and must be used with proper safeguards. Three, they will fail unless the surface is properly prepared by cleaning thorough and then by priming with an alkyd resin. And finally, a mold-resistant enamel should be used, rather than a flat paint.

—Daniel F. O'Brien, Chem-Guard Products, San Carlos, Calif., at N.W. Canners & Freezers Assn. convention, Seattle, Wash., January 1960.

Storage Place of Carrots May Cause a Bitter Flavor

After receiving complaints from processors about a bitter flavor in some lots of carrots, research workers set out to find just what the cause was. After the effect of field conditions and other factors was eliminated, it was found that the bitterness was caused by something present in the air in refrigerated storages where the carrots were stored.

Another group of research workers found that carrots would turn bitter if the atmosphere in which they were stored was subjected to small quantities of ethylene gas.

Bitterness was also caused when carrots were stored with other fruits such as appies. In the process of ripening, these fruits would give off enough ethylene gas to produce a bitter flavor in the carrots.

To solve this problem, carrots should not be stored with fruits that give off this gas.

—Food Processing Review, Oregon State College, Corvallis, Ore.

Grade Standards

Grade standards developed by the U. S. Department of Agriculture are voluntary. Comments regarding standards and requests for copies of standards may be sent to and obtained from: Chief, Processed Products Standardization and Inspection Branch, Fruit and Vegetable Div., Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

New Grade Standards for:

Canned Lima Beans
Canned Grapefruit and Orange for Salad

Standards of Identity

The Food and Drug Administration establishes standards which are binding to every processor. Comments on proposed changes may be sent in quintuplicate to: Hearing Clerk, Department of Health, Room 5440, Health, Education and Welfare Building, 330 Independence Ave., S. W., Washington 25, D. C.

New Standards for:

Commercially Packed Orange Juice Products (Undiluted and Concentrated)
Enriched Rice

Food & Drug Developments

Food package colors: Coal tar dyes used in paper products used for food packaging are not affected by 1958 Food Additives Amendment, the Synthetic Organic Chemical Manufacturers Assn., has announced. They are still under the basic provisions of the 1938 law (no adulteration) but may be involved in the new Color Additives bill, if it is passed. Secretary Flemming wants an "anti-Cancer" clause similar to the Food Additives Amendment.

Spices are OK: Most spices and natural seasonings were listed by FDA as approved for use by food processors. In addition, a list of extracts and derivatives from natural seasonings were approved. The list totals some 150 additions to the "safe" list.

More Chemicals Listed: A preliminary listing of some 51 chemicals was published by FDA as presumably safe for use in foods. This is the first batch of chemicals which will follow the formal procedure for approval under the food additives law. Comments are accepted within 30 days, and if no unfavorable evidence is found, the list will supplement the original list issued in November, 1959.

Enzymes: Production and sales of certain enzymes for use in food and beverage has been given the "green light" by FDA. It was ruled that these enzymes are not additives within the meaning of the Food Additives Amendment of 1958.

STANDARD NAILED PICKING BOXES

For Fast, Economical Tomato Handling

Adapted to Palletization, Fork Truck Handling, Automatic Box Dumpers.

Holds 50 pounds. **Western Style→**

"THE BOX THAT HANDLES A TON A MINUTE"

RIGID • STURDY • LONG LIFE SPAN

THE WOODEN BOX INSTITUTE

55 New Montgomery St. San Francisco 5, Calif.

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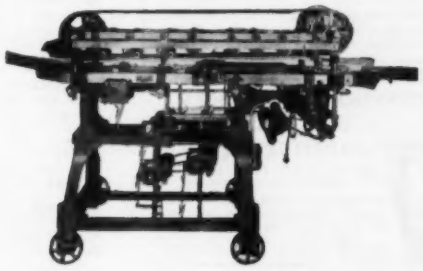

The continuous action of the Burt Non-Stop Labeler means lower production costs because there are no costly delays. The label supply is replenished without stopping. . . One operator can keep two Burt labelers in continuous operation.

For fast...easy...economical labeling... Get a...

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BURT MACHINE COMPANY
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Do you want to buy some machinery?
Or sell some?

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See page 82 for rates

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Address_____

City_____ State_____

Signature of Manager_____

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Please address box advertisers: "Box — c/o Canner/Packer, 59 E. Monroe St., Chicago 3, Ill."

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FOR SALE—M & E

FOR SALE — FMC Stainless Crusher-Preheater, Standard Knapp #429 Top Glver. Fitzpatrick st. st. Comminuting Machines models D & F. 3,000, 3,700 gallon stainless steel Vacuum Tanks with coils. Niagara Stainless Steel Pressure Leaf Filters: 500, 100 sq. ft. Hope Piston Filler. SEND US YOUR INQUIRIES. PERRY EQUIPMENT CORP., 1405 N. 6th St., Phila. 22, Pa.

FOR SALE—Kettles, Tanks, Fillers, Filters, Labelers, Pumps, Mixers, Case Glvers and Sealers, Vacuum Pans, etc. Send us your inquiries and list of idle equipment. Loeb Equipment Supply Co., 830 W. Superior St., Chicago 22, Ill.

GOVERNMENT SURPLUS Steel Cots $6.50 and $9.50; Canvas Cots, heavy duty $4.50; Mattress covers new $2.00 each; O. D. Blankets, repaired $4.50 each; Rubberized Containers, 16 x 20 x 11, collapsible—straps $5.00 each; Refrigerator clothing—Harris Machinery Warehouse, 511 30th Avenue S.E., Minneapolis 14, Minn.

FOR QUICK SALE: Established manufacturing business of quality food products. 90,000 sq. ft. floor space. Railroad siding. Located in east central state, productive farm area. Appraisal $350,000.00 Reply to Box 1360.

Still in original crates! 26 flat belt conveyor systems. Inclined; Belting 30" wide x 12' lg. Belting is fabricated from 304 stainless steel wire. Send for photo. Davenport, Box 152, Louisville 18, Ky. Gl. 8-9838 evenings.

IF YOU CAN'T COME to New York to see this choice equipment write for quotations. M. & S. 10 pocket S.S. Fillers; Filler Mach. Co. Piston Fillers; Stokes & Smith Twin Aut. Powder Filler; Triangle Elec-tri-Pak 4 Station Aut. Filler; Meteor Stainless Fillers; Gravity Filler for 5 gal. cans; Pn. Scale 16 sp. Rot. Filler; Pn. Scale Aut. Bottle Cleaner; Chis. Ryder Aut. Jar Cleaner; Cappers by Resina, Capem and Pneumatic Scale; Ball & Jewell, Abbe Cutters; Labelers by N. J., Pneumatic Scale, Burt, Kyler, St. Knapp; Brand new S. S. Kettles; Brand new Falcon Ribbon Blenders, all sizes; Stainless Reactors; Vac. Pans; Juice Extractors; Pulpers; Dicers; Slicers; Peelers; Colloid Mills; Hammer Mills; Filters & Filter Presses; Dryers & Evaporators; Packaging Equipment. Send for First Facts. First Machinery Corp., 209-289 Tenth St., Brooklyn 15, N. Y., STerling 8-4672.

FOR SALE—Salting stations complete with indoor tanks located in Galien, Buchanan and Sherwood, Michigan. For details write: The Albro Packing Company, Springboro, Pennsylvania.

FOR SALE—One Standard Knapp 429 Glver, Model 610 Compression Unit, Model 806 Mather Packer, Model 830 6-Lane fully automatic Packer, World Rotary Labelers, Ermold Labelers, Glass Lined Tanks of all sizes. SEND US YOUR REQUIREMENTS. BREWERS & BOTTLERS EQUIPMENT CORPORATION, 104 Asylum Street, Hartford, Connecticut. Phone: CHapel 9-5258.

FOR SALE—9 Cypress wood tanks 8' high 9' diameter. $100.00 each. David Slinger, Randolph, Wis.

MATERIALS HANDLING EQUIPMENT. Lift trucks and all types rigging. SALES OR RENTALS. Seattle Stevedore, 1200 Westlake North, Seattle 9, Wash.

ONE BURT LABELER, Model AU No. 1923 Portable Horizontal Machine, ½ HP Motor 3 Phase 220V. Will handle cans from 2⅛" to 4¼" dia. 2" to 7" tall. Fisher Nut Co., 2327 Wycliff St., St. Paul 14, Minn.

FOR SALE:—(2)—2000 gal. S.S. Vertical Tanks; 1500 gal. S.S. Vertical Vacuum Tank with heating coil; Fitzpatrick Model D. Comminuting Machine; 300 gal. Jacketed and agitated S.S. Cooking Kettles; Eight S.S. sanitary heat Exchangers, 50 to 250 sq. ft.; Vacuum Pans; Evaporators; Dryers. Best Equipment Company, 1737 W. Howard St., Chicago, 26, Ill.

FOR SALE or merger:—Large modern cannery deep south canning vegetables and fresh fish for cat food. Volume 300,000 Cases. Also sweet potatoes. Box 2460.

FOR SALE—New Areco S/S ribbon blenders from 5 to 62 cu. ft. working capacity, all S/S contact parts. New Areco 1/3 H.P. portable liquid mixers with clamp, props and shaft $65.00. ABC Model A top & bottom case glver and sealing unit with compression unit. ABC semi-automatic Model XSSA top & bottom glver with compression unit. 500 gal. storage tank 56" dia x 48" deep, new. Sparkler Filter Model 18 S 23. Frick Ammonia Compressor 8 x 8 complete with flywheel & mtr. Two—Selectro vibrating S/S screens 1½' x 4' long for tomato pulp. New 60 gal. cap. S/S clad steam kettles complete with cover pop and draw valve. Heat Exchangers —Foster Wheeler—from 60 sq. ft. up to 500 sq. ft. heating surface, all type 316 S/S tubes with mild steel outer shells. Send us your inquiries. Aaron Equipment Company, 9370 Byron Street, Schiller Park, Illinois. Gladstone 1-1500.

FOR SALE—Reitz 50 H.P. angle disintegrator. All stainless steel contact parts. Almost new, used two months. Cost $7500.00, sell for $4500.00. Hansen's Juices, 206 N. Juanita, Los Angeles, Calif. Phone DU 3-1149.

FOR SALE—Standard-Knapp #429 Case Glver and 16' Sealer, like new. Three 150 Gal. Groen Stainless Kettles. 150 & 200 Gal. Stainless Mixing Kettles. 6-valve #10 Stainless M & S Filler. #100 FMC Stainless Pulper. Ask for new catalogue of 1001 items. Offer us your Surplus equipment. HORNE MACHINERY CO., INC., 1188 Harrison St., San Francisco 3, Calif.

CERTIFIED Tomato, Cabbage, Pepper and Onion Plants. Truck lots. Available March to June. John Thornhill Plant Co., Tifton, Ga. Phone 1752.

WANTED TO BUY

WANTED—Corrugated Boxes, Folding paper boxes, cellophane bags and rolls and any other discontinued packaging material for sale. Berry Box Co., Inc., 1013 Broadway, Brooklyn 21, N. Y.

NEEDED: Two URSCHEL Model 30C bean cutters with hoppers for cutting asparagus. Princeville Canning Co., Princeville, Ill.

BUYERS OF CLOSEOUTS, discontinued items. Must pass Federal Food and Drug Laws; no quantities too large. Ahlbrand Sales Co., 9th & Patterson Ave., Newport, Ky. Phone HE 1-8401.

WANTED—10,000 pounds Victory Golden corn seed from 1958 crop. Reply to Box 1460.

WILL PAY CASH for carload or less of canned goods any size, new, odd lots, rough ups and dents accepted (no swells). Bill Mull, P. O. Box 984, Kannapolis, N. C. Phone WE 3-3132.

HELP WANTED

FOOD TECHNOLOGIST of 8 to 10 years industrial experience to assume position of senior responsibility in quality control and development for multi-plant food processing operations involving the canning, freezing and dehydration of fruits and vegetables. Reply to: Curtice Brothers Co., 328 Main Street East, Rochester 4, New York.

PRODUCTION MANAGER—Eastern Canadian frozen food plant, due to expansion, requires a Production Manager. Plant processes peas and French Fried Potatoes. This is an excellent opportunity for an experienced production man to join a young organization and grow with it. Relocation at company's expense. Apply in confidence giving full details of experience, education, salary expected, and recent photo to Box 4460.

POSITIONS WANTED

POSITION WANTED with reliable company offering advancement. Experienced in processing of some fruits and vegetables and field service work. College graduate, married, veteran. Interested in quality control. Box 3460.

FOOD EXECUTIVE—25 Years' experience in production, packaging, research and development desires position on West Coast or Mid-West. Available on short notice. Master's degree Food Chemistry. Financial requirements nominal. Box 5460.

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COMING EVENTS CALENDAR

April

5-7—**Indiana Canners Assn.**, spring meeting, Purdue University, Lafayette, Ind.

6—**Apple Products**, University of Maryland, Student Union Bldg. and Dept. of Horticulture, College Park.

6-7—**Indiana Canners Assn.**, spring meeting and technology conference, Purdue University, Lafayette, Ind.

6-8—**National Pickle Packers Assn.**, western regional meeting, Mark Thomas Inn, Monterey, Calif.

11-13—**Transportation of Perishables Conference**, University of California, Davis.

21-22—**Cooperative Food Distributors of America**, 11th annual meeting, Statler Hotel, Washington, D. C.

25-28—**National Assn. of Refrigerated Warehouses**, annual meeting, Americana Hotel, Bal Harbour, Fla.

28-29—**Dried Fruit Assn. of Calif.**, annual meeting, Mark Thomas Inn. Monterey, Calif.

28-29—**National Pickle Packers Assn.**, spring meeting, Drake Hotel, Chicago, Ill.

29-May 4—**National Fisheries Institute**, 15th annual meeting, Fountainbleau Hotel, Miami Beach, Fla.

May

1-4—**Super Market Institute**, 22nd annual meeting, Auditorium, Atlantic City, N. J.

3—**New England Frozen Food Distributors Assn.** and **Connecticut & Western Massachusetts Food Brokers Assn.**, 3rd annual Eastern Frozen Foods Conference, Statler-Hilton Hotel, Hartford, Conn.

3-5—**Industrial Waste Conference**, Purdue Memorial Union Bldg., Lafayette, Ind.

11-13—**California Olive Assn.**, industry technical conference, Casa Munras, Monterey, Calif.

13-14—**National Frozen Food Distributors**, directors meeting, Cloisters, Sea Island, Ga.

15-19—**Institute of Food Technologists**, annual meeting, Fairmont Hotel and Masonic Temple, San Francisco, Calif.

16—**Maine Sardine Packers' Assn.**, annual meeting, Penobscot Hotel, Bangor, Me.

19-25 or 29—**Institute of Food Technologists**, Pacific Rim Conference, Princess Kaiulani Hotel, Honolulu, Hawaii.

19-20—**National Food Brokers Assn.**, food brokers' management conference, Shoreham and Sheraton Park Hotels, Washington, D. C.

20—**Vegetable Crops Field Day**, University of Calif., Davis.

22-25—**American Spice Trade Assn.**, annual convention, Shawnee Inn, Shawnee-on, Delaware, Pa.

24-26—**American Society of Quality Control**, annual convention, San Francisco, Calif.

June

1-3—**National Food Distributors Assn.**, 33rd annual convention, Statler Hilton Hotel, New York City.

4-6—**Michigan Canners & Freezers Assn.**, spring meeting, Park Place Hotel, Traverse City, Mich.

10—**Walnut Day**, University of Calif., Davis.

11—**Almond Day**, University of Calif., Davis.

12-16—**National Assn., of Retail Grocers**, annual meeting, Dallas, Texas.

15-18—**Processed Apples Inst.**, annual meeting, Greenbrier Hotel, White Sulpher Springs, West Va.

28-July 1—**American Home Economics Assn.**, 51st annual meeting and exposition, Denver Auditorium, Denver, Colo.

16-18—**Shrimp Assn., of the Americas**, annual meeting, Mexico City, Mexico.

20-22—**Grocery Manufacturers of America**, midyear meeting, Greenbrier Hotel, White Sulphur Springs, West Va.

10-26—**Federation of British Industries**, exhibition, New York Coliseum, New York, N. Y.

July

14-15—**National Kraut Packers Assn.**, annual meeting, Catawba Cliffs Beach Club, Catawba Island, Ohio.

Merchandising Calendar

May 2-9: Natl. Raisin Week (Calif. Raisin Advisory Board, Box 1963, Fresno, Calif.).

May 7-14: Natl. Frozen Food Week (Natl. Frozen Food Distribs. Assn., 60 E. 42nd St., New York 17, N. Y.).

May 19-28: Natl. Pickle Week (Natl. Pickle Packers Assn., 202 So. Marion St., Oak Park, Ill.).

June 1-Aug. 31: Kraut Salad Season (Natl. Kraut Packers Assn., 202 So. Marion St., Oak Park, Ill.).

June 16-25: Natl. Mayonnaise and Salad Dressing Week (Mayonnaise and Salad Dressing Mfrs. Assn., 332 S. Michigan Ave., Chicago 4, Ill.).

July 1-31: Natl. Iced Tea Time (Tea Council of the U.S.A., 16 E. 56th St., New York, N. Y.).

July 1-31: Natl. Hot Dog Month (Natl. Hot Dog Month Council, 3520 S. Morgan Ave., Chicago 9, Ill.).

July 1-31: Natl. Picnic Month (American Bakers Assn., 20 N. Wacker Dr., Chicago, Ill.).

July 31-Aug. 2: Maine Seafoods Festival.

Aug. 1-31: August is Sandwich Month (Wheat Flour Institute, 309 W. Jackson Blvd., Chicago 6, Ill.).

Aug. 1-31: Pickles-Natl. Sandwich Month (Natl. Pickle Packers Assn., 202 So. Marion St., Oak Park, Ill.).

Aug. 4-13: Natl. Green Olive Week (Theo. R. Sills & Co., 39 So. LaSalle St., Chicago 3, Ill.).

Aug. 15-Oct. 31: Cherry Dessert Time (Natl. Red Cherry Inst., 35 E. Wacker Dr., Chicago 1, Ill.).

Sept. 1-30: Natl. Better Breakfast Month (Cereal Institute, Inc., 135 So. LaSalle St., Chicago 3, Ill.).

Sept. 18-25: Cranberry Harvest Festival (Edaville Railroad, Rupe Wunschel, South Carver, Mass.).

Sept. 25-Oct. 1: 100% Pure Maple Syrup Week (100% Pure Maple Syrup Insti., St. Johnsbury, Vt.).

Oct. 1-31: Natl. Rice Harvest Festival (Rice Consumer Service, Realty Bldg., Louisville 2, Ky.).

Oct. 1-31: Shrimp Fiesta (Special Publications Serv., Frances Smith, 420 Lexington Ave., N. Y. 17, N. Y.

Oct. 1-31: October Cheese Festival (Amer. Dairy Assn., 20 N. Wacker Dr., Chicago 6, Ill.).

I.F.T. Sections Calendar of Meeting Dates

Western

So. Calif.: April meeting, 7:00 p.m., at Roger Young Auditorium, Los Angeles, Calif., on problems in hospital and institutional feeding.

Oregon: April 22, 3:00 p.m., at Marion Hotel, Salem, Ore., annual business meeting, followed by Ladies Nite Dinner.

Midwest

Ames: April 29, 10:00 a.m., at La Crosse, Wis., a joint meeting with Wisconsin and Minnesota Sections.

Chicago: April 11, 6:30 p.m., at Midland Hotel, Chicago, Dr. John Harvey, Deputy Commissioner, Food & Drug Adm., Washington, D.C., on "Food Additive Amendment."

Great Lakes: April 29, all day meeting, at Leamington, Ontario, Canada, tour in the morning and technical session in the afternoon.

Kansas City: April 21, 7:30 p.m., at Twin Oaks Restaurant, Kansas City, Mo., Dr. Richard Guyer, Continental Can Co., Chicago, Ill., on "A Progress Report on New Developments in the Field of Packaging & Containers."

Wisconsin: April 29, 10:00 a.m., at La Crosse, Wis., an all-day meeting with Minnesota and Iowa Sections, Dr. I. J. Hutchings on "Current Problems on Food Technology;" Dr. G. D. Wilson, AMIF, on "Current Problems Facing Meat Industry and their Projected Solution;" Iowa Section on "Dairy Processing;" and Minnesota Section on "Canning and Freezing of Various Foods. Also tour of Helleman Brewery.

Eastern

New York: April 20, 6:00 p.m., at Brass Rail, New York City, Fred Butt, Dow Chemical Co., on "Chelating Agents."

Northeast: April 26, 6:00 p.m., at M.I.T. Faculty Club, subject not known.

Southern

Florida: April 28, 4:00 p.m., tour of the Anheuser Busch Brewing Co., Tampa, Fla., followed by Hospitality and Ladies Nite.

Profits Come from the 'Guys in the White Coats'

Nearly 20 years ago one of our prominent baby food canners took over a plant which had been used for conventional canned fruits and vegetables. In the process, the new owner acquired the services of many of the employees of the old firm, including the superintendent.

Being in the same area a few weeks later, I dropped in at the cannery and asked Sam how he liked being in the baby food business.

"El," he said, "it's strictly for the birds. In the old days, the superintendent was the boss of a cannery. But in this new deal, I can't turn a wheel until it's okayed by those guys in the white coats."

Birth of Technology

Although I had known many food technologists before, Sam's remarks brought home to me the significance of the revolution which was then occurring in processed foods—the conversion from kitchen-type operations to those embodying scientific methods typified by the food technologists who were getting in my friend's hair.

Nicholas Appert is generally credited with being the first modern food tehnologist, and other pioneers like Pasteur, Borden, etc., made tremendous contributions to our knowledge. But it was in the late 1930's and early 1940's that food technology really commenced to make its mark.

In that era management began to see more clearly some of the contributions these new scientists could make—the new products they were developing, the big savings they were achieving through reduction of spoilage, the major role they played in training present or potential employees, the more efficient machines and techniques they were evolving.

Formation of Institute

The new science received a major boost as the result of a meeting which took place at Hotel Pennsylvania in New York City on January 16, 1939. Present at that gathering were Sam Prescott, Bernie Proctor, Carl Fellers, Olin Ball, Larry Burton, and others of equal stature. And out of the meeting came formation of the Institute of Food Technologists.

At the end of June, 1939, the Institute was formally organized, with Samuel Cate Prescott of Mass. Institute of Tech. as first president; with Roy C. Newton of Swift & Co. as vice-president; with Geo. J. Hucker of N. Y. Agr. Exper. Sta. as secy.-treas., and with a most distinguished group of food scientists as councillors.

Although with a lot of hard work, and some trying times financially, the Institute flourished. The first annual meeting was held in Chicago in 1940, pioneer sections were established at Chicago and then at San Francisco, and the membership climbed to 1,000 by 1941. Since then the organization has grown to have well over 6,000 members, with 32 active sections in the United States and in four foreign countries.

Duties Multiply

Of the 13 original officers and councillors of IFT, only three were directly employed by processed food companies, and in general the existing technologists were commonly found in universities, government agencies and other centers of research and instruction.

Today, while the profession has increased its numbers in these categories, an expanding proportion of the craft is found in the packing plants themselves. Here the technologist has securely established himself by reason of what he is already doing: here, every day, he finds new opportunities for service.

As a result, management in the industry more and more comes to feel that the food technology department is an investment leading to profits in the future, not just a routine class of employees constituting one more item of expense on the payroll sheet.

Room for More

Yet there are still too many companies of consequence in our industry who have not learned how valuable these "guys in the white coats" can be.

- They still receive raw products and supplies without checking them scientifically.
- They still depend upon elbow grease and horse sense to make their processing steps and sanitation procedures come out okay.
- They still ship out finished packs without adequate sampling to make sure the products' quality measures up to their standards.
- They still look regretfully at the new products introduced by their competitors, and wonder why they don't come up with such bright ideas.

Authority Needed

Almost equally shortsighted are the companies which do employ adequate staffs of food technologists, but don't give their scientific people the status needed to make their work effective.

By the very nature of their work, food technologists are bound to come into conflict, from time to time, with officials in the lines of raw product procurement, production, accounting, personnel, traffic and sales, and with management as well. The head of the department should have the standing to hold his own in such discussions, not for his personal satisfaction, but for the benefit of the firm.

Convention Coming

The Institute of Food Tehnologists will hold its 20th annual meeting in San Francisco, Calif., on May 15-19, followed by the IFT Pacific Rim Food Conference in Hawaii the next week.

At these affairs, no time will be wasted in backward glances at the science's history, and very little in thinking about its present status. The emphasis is upon how food technology can serve our industry in the future.

The processed food firm which is not represented at least at one of these affairs will miss one of the most productive series of food conferences to be found.

El Stark
Editor

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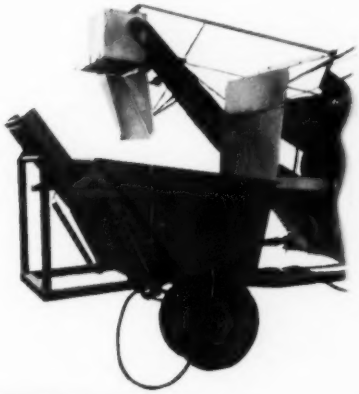

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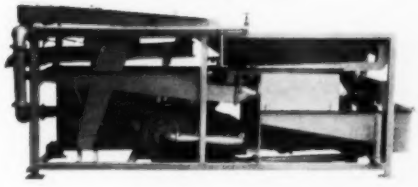

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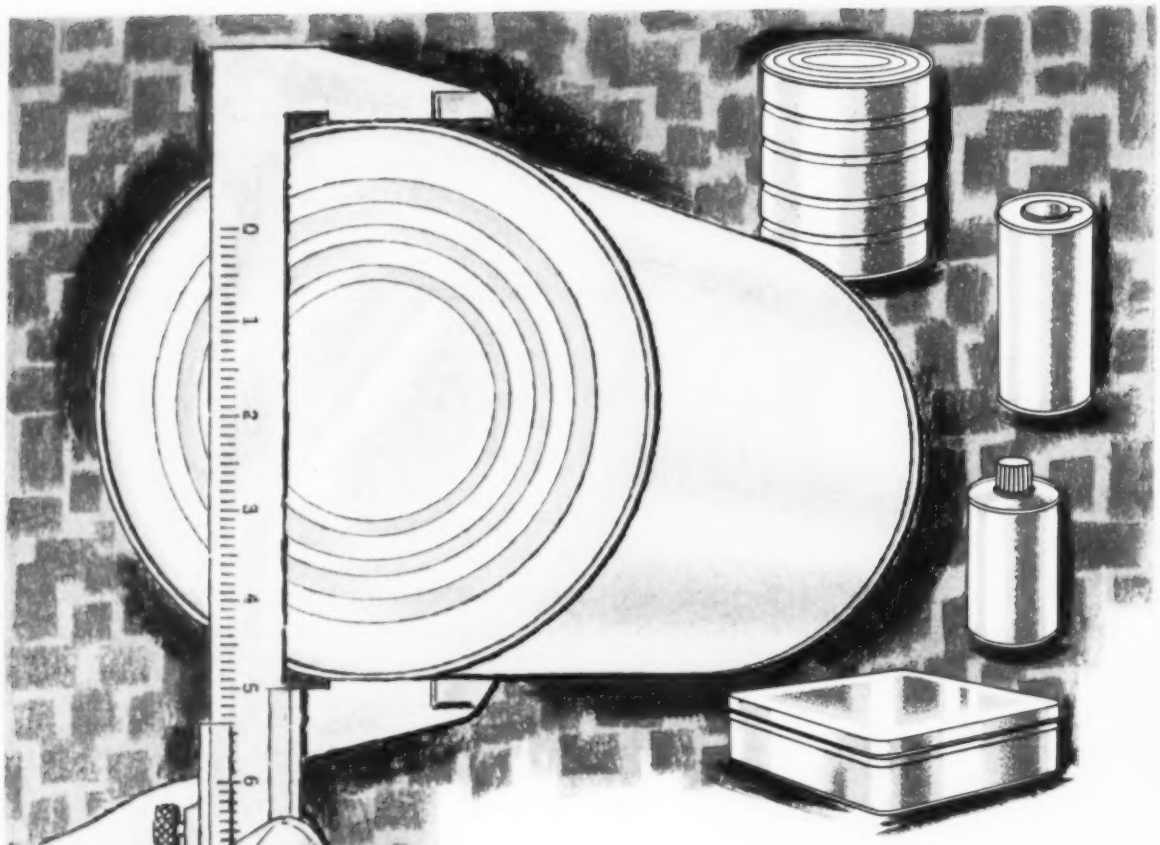

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